

A Global History *Infantry*

Edited by
JEREMY BLACK



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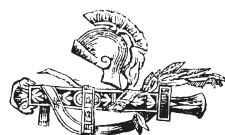
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L'expérience historique a favorisé la prise de conscience théorique. La raison, effectivement, ne s'exerce pas dans le vide, elle travaille toujours sur une matière, mais Clausewitz distingue, sans les opposer, la conceptualisation et le raisonnement d'une part, l'observation historique de l'autre.

R. ARON, *Penser la guerre*, 1976, I, p. 456

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Modern Replica of Quantieja (全鐵甲), Plate Armour of the Ming Dynasty
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Infantry A Global History

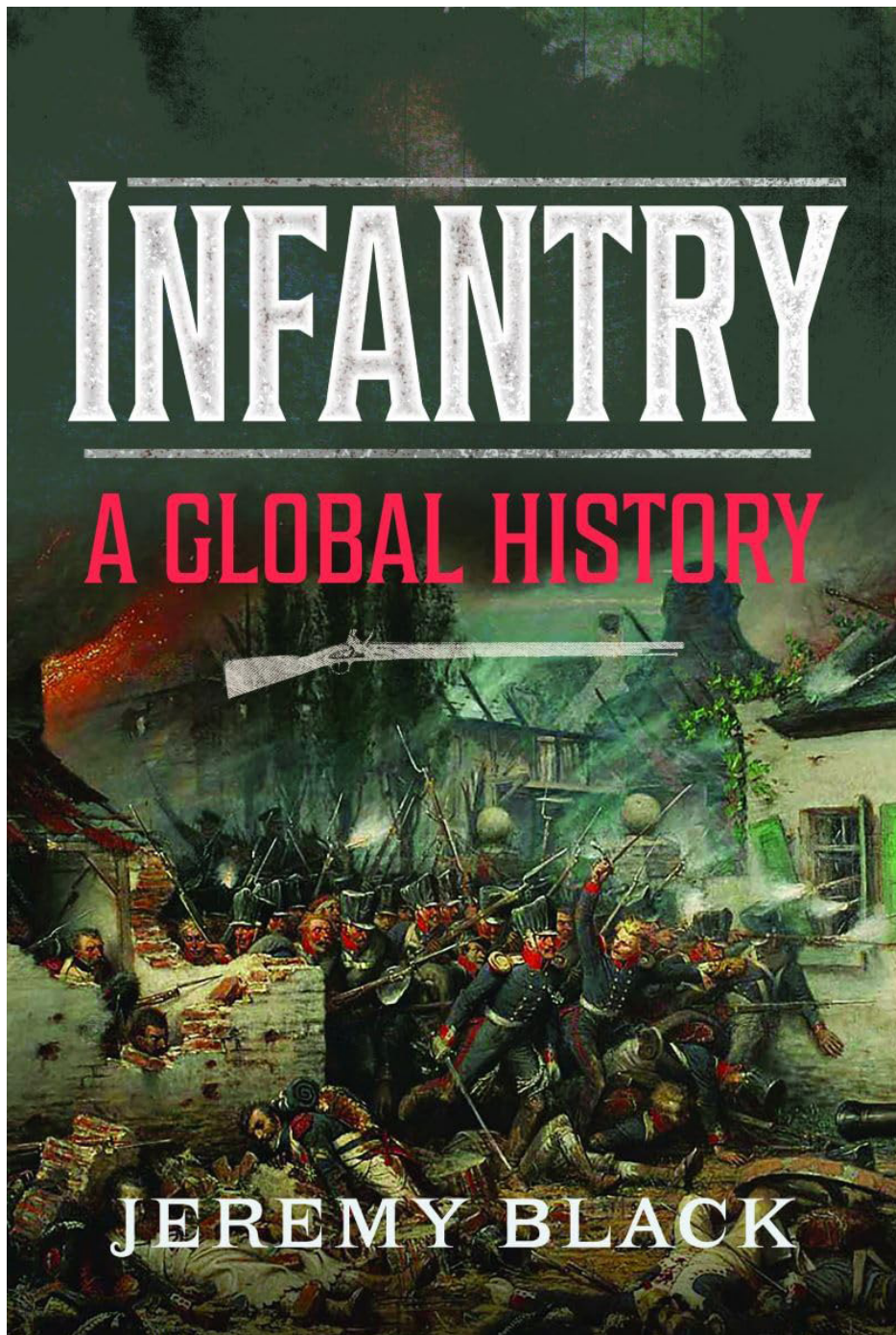
Edited by JEREMY BLACK

*Dedicated to
Ken Weisbrode*

INFANTRY

A GLOBAL HISTORY

JEREMY BLACK



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Preface

by JEREMY BLACK

‘this murdering siege, it is thought, has destroyed more than the [siege of] Namur [1695] did last war [the Nine Years’ War], and those that were the flower of the [British] army: for what was not killed or drowned were spoiled by their [the French] hellish inventions of throwing of bombs, boiling pitch, tar, oil and brimstone with scalding water and such like combustibles, upon our men, from the outworks.... Especially the English Grenadiers have scarce 6 sound men in a company.’¹

The lengthy, but eventually-successful, siege of French-held Lille in 1708 (still an impressive fortification) cost the Austro-Dutch-British besiegers 14,000 casualties and John Deane of the British Foot Guards thus recorded what to him were the diabolical nature of the killing, with some of the French ‘contrivances’ enough to puzzle ‘the Devil’. At every stage of this book, it is necessary to remember the fortitude, pain and casualties involved in our subject, a point differently to the fore in the vivid brutality of the film *Warfare* (2025), which is an account of the difficult, close-up battle of Ramadi in Iraq in 2006 between American troops and Iraqi insurgents.

‘Fundamental to warfare’? ‘Underrated’? ‘A catchall for those not in the other arms’? ‘Redundant in a world of technology’? Which is the best description of infantry or even the departure point for a study of them? As the enclosed demonstrates, there is no one answer, but all these approaches deserve consideration. In doing so, we have deliberately focused on non-Western military history, for Western military history, especially that of the last half-millennium, overly dominates the literature as well as the classification points, chronology, and, indeed, methodology of the subject. Thus, the standard historiography dictates

¹ New Haven, Connecticut, Beinecke Library, Osborn Shelves, pc. 224, 24 Sept. 1708.

conceptualisation and methodology, and, indeed, vice versa. Hopefully, this volume provides an opportunity to redress the balance and restart the debate.

It is a great pleasure to acknowledge the excellent work of other scholars, work that has repeatedly encouraged me. I would also like to thank friends and colleagues who commented on earlier drafts including Peter Brown, Alexandru Cristian, Kevin Farrell and Jack Gill. They are not responsible for any errors that remain. This book is dedicated to Ken Weisbrode, with thanks for his encouragement, a characteristic which is so important to scholarship as to humanity.

Introduction

by JEREMY BLACK

To start, what are we talking about? Any definition of infantry in terms of troops who fight on foot can be much qualified. So also with the particular role of the infantry in strategy, operations or tactics, for these are topics for which there are no obvious definitions, as well as no set approaches. The basic definition of infantry would be that they walk, carry equipment, cannot see more than five or six feet off the ground, can be more vulnerable than cavalry and cannot move as quickly as them, and are easier to recruit (more available), require less training, are more disposable, and have lesser social standing than other branches.

Other criteria have also been suggested to me, but, in practice, are less definitive. That is the case for example with the definitions of infantry as inherently dependent upon government for macro-organisation, recruitment, supply and commitment to battle, as moving in accordance with geometric patterns and rhythm, as using syncopated physical movements,¹ or as characterised by discipline and obedience, and therefore both incompatible with individualism and different from special forces, guerrillas, and the forces of narco-cartels.² There is the separate question of whether robotic warriors will challenge existing definitions.

A standard problem is that of employing circular definitions that relate essentially to ‘regular soldiers’, which tends to be interpreted to mean those who work for clearly defined state armies. This, essentially presentist, argument, leaves out other, and different, state forces, as well as those of ‘non-state actors’ or failed states or polities in inchoate ‘state systems’, or irregulars as a whole. A clearly defined ‘state’ is very much a construction, both of the time and subsequently,

¹ Pete Brown to Black, email, 14 Ap. 2025.

² Virgilio Iliari to Edward Gutiérrez and Black, email, 21 June 2025.

and in both general and specific terms. For example, how far and for how long did a rebellion have to be organised and sustained to constitute in effect a state? This was an issue clearly seen with the Dutch Revolt and the English and American Civil Wars: the first two led to such a state, but not the last.

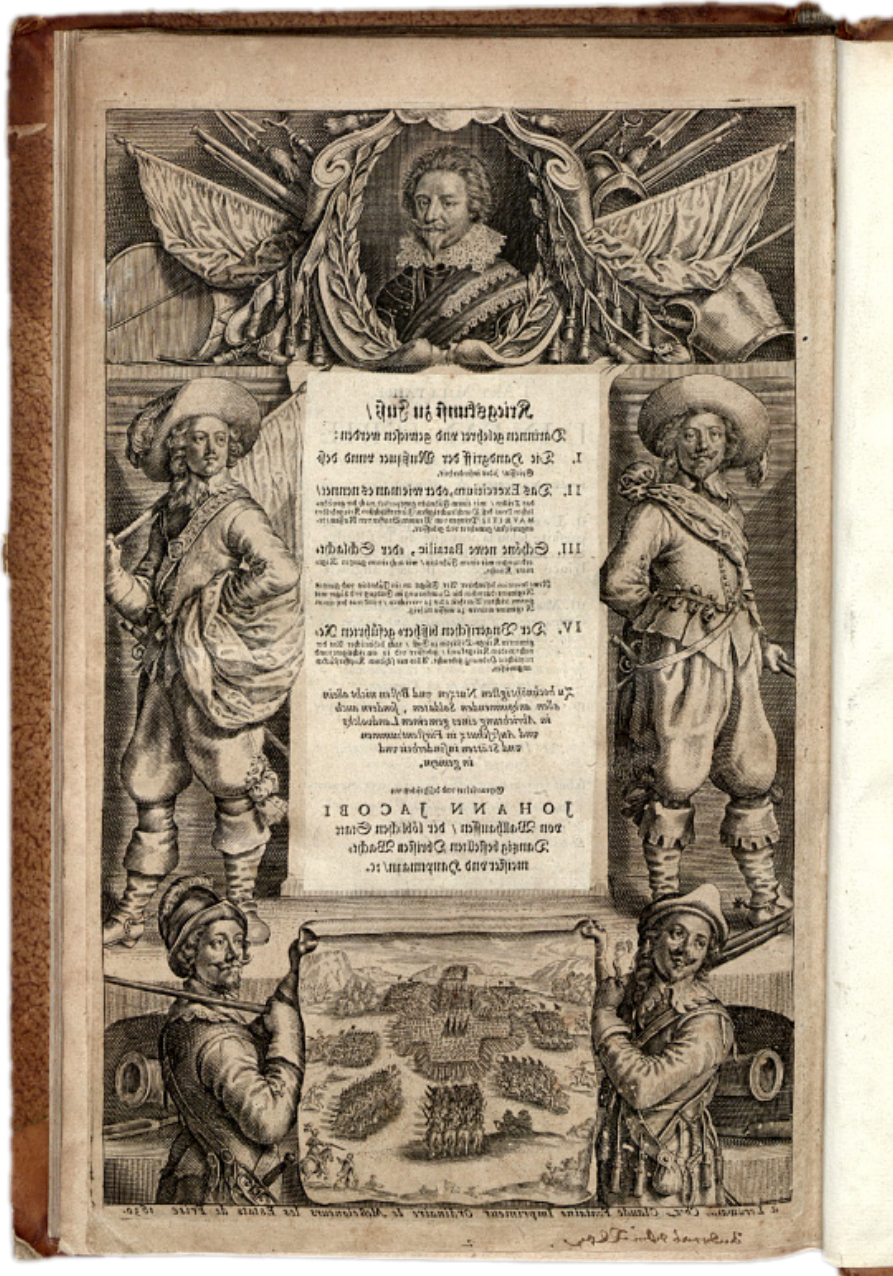
In a more narrow tactical sense, one that throws critical light on the definitions offered in the first paragraph, infantry can be motorised and/or mechanised, not only for transport but also for combat. In World War Two, Soviet infantry travelled into combat on the back of tanks. Earlier, infantry could be transported by means other than their legs, riding for example to battle and then dismounting to fight. Linked to this, the differences between cavalry, dragoons and mounted infantry were often clearer in definitional terms than in practice.

How far infantry fighting from chariots, elephants, vehicles and ships should be included is also worthy of consideration. A definition of the last in terms of ‘Marines’ is very much nationally specific, as also for Dragoons. Furthermore, ‘Marines’ have been frequently employed as infantry fighting on land even if landed from ships, a situation very much the case in the American and British cases. Infantry had a major advantage over cavalry in amphibious operations.

It is possible in discussing and defining infantry to focus on chronological periods or geographical spaces, both of which are highly important, and indeed open to fresh work, not least contextual work.³ It is also possible to focus on the level of war; or, separately, on problem-oriented questions. These include fire-power versus assault, more particularly *ordre mince* (the line) versus column, an issue extensively discussed in eighteenth-century France, and so on. In turn, these questions can have different contexts and contents in particular settings.

Task-based approaches vary. In many polities, the key element was the overlap between the need for force against external rivals, and the requirement for armed control and policing. This was not a fixed boundary between tanks. Thus, Iran’s Islamic Revolutionary Guard (IRGC) has fought both external and domestic opponents of the Islamic Revolution since it was established in 1979 as an alternative to the regular army which was not trusted. In 2025, units were deployed to maintain control of the regions of Baluchistan and Kurdistan, in

3 R. Reid, *The African Revolution: A History of the Long Nineteenth Century* (Princeton, NJ, 2025).



Johann Jacobi Wallhausen, *Kriegskunst zu Fuß*, Leuwarden, Fontaine, 1630.
 Niedersächsische Staats- und Universitätsbibliothek Göttingen
<http://resolver.sub.uni-goettingen.de/purl?PPN566437228>

both of which they have frequently been deployed.

Indeed, partly as a result of such issues of identity and tasking, the idea of infantry, as opposed for example to definition solely in terms of regular or irregular forces that fight primarily on foot, was, and remains, one that is culturally conditioned as well as contextual. The IRGC has been designated as a terrorist organisation, has been compared to the Mafia and the Waffen SS, and has been described both as an ideological militia and as soldiers.

More generally, the general reputation of infantry service has been low in the West (Europe and the Americas of European settlement), in contrast to cavalry and, later, armour, although with important exceptions both there (for example in Switzerland), and also in non-Western societies such as Ming China and Japan. This reputation is reflected in phrases such as ‘poor bloody infantry,’ as well as in the characterisation of infantry by marching, and the frequent practicalities of lower pay and worse conditions. So also with the lower prestige bound up in less splendid uniforms for infantry as opposed to those for cavalry, and a less prominent role in displays. The acts of bravery that were seen as so important in memoirs⁴ and in visual depictions of war were easier for horsemen.

The worse conditions for infantry, and their greater numbers, help to explain why desertion was especially linked to infantry which again affected their reputation. In response to the low status of the Infantry Branch in the American army in World War Two, two insignia were created in November 1943 to help improve prestige, the CIB and EIB (Combat Infantryman Badge and Expert Infantryman Badge). They have continued to the present.

Yet, such an account of reputation and conditions does not allow for major variations across time, space and type, in the last case for example the prestige of heavy infantry as opposed to auxiliaries, as with the (ancient) Egyptian⁵ and Roman armies, the auxiliaries for example providing bowmen rather than spear-men or swordsmen. The prestige of infantry service can be seen in important instances, including Athens, Sparta, Macedon and Rome, the last being particularly significant for its later normative reputation, for example in the Renaissance.

4 Y.N. Harari, *Renaissance Military Memoirs: War, History and Identity* (Woodbridge, 2004).

5 B.H. Heagren, ‘The “Development” of Egyptian Assault Warfare’, in J. Armstrong and M. Trundle (eds), *Brill’s Companion to Sieges in the Ancient Mediterranean* (Leiden, 2019), pp. 97-9.

Yet, the role of infantry in these (and other) could be downplayed in subsequent representation, and especially so in the presentation of Alexander the Great's victories. This was the case with Albrecht Altdorfer's 1529 painting of the battle of Issus. Similarly, François-Louis-Joseph Watteau (1758-1823), grand-nephew of Antoine Watteau, displayed at the Salon of 1802, his paintings of Alexander's defeats of Darius III and Porus, focusing in each case on cavalry rather than on the Macedonian phalanx which had also been highly significant. Separately, in the depiction of villains in religious scenes, Christian and otherwise, foot-soldiers frequently took the prominent role, as in the Crucifixion and the preceding episodes, and in the slaughter of saints, for instance St Sebastian and, even though they were Huns and thus horsemen, St Ursula.

Nevertheless, there is the fame won by the success of infantry, for example those of English longbowmen in the fourteenth century. Also, in the 'counter-military history,' of countries and groups opposed to the leading power and/or type of conflict, infantry is generally to the fore. This was seen for example in Scottish spearmen, Swiss pikemen, Hussite wagon-fortresses, Mahdist spearmen or, later, Viet Cong opponents of the Americans.

The cumulative impact of these examples, examples that can be readily expanded, provides the opportunity for an history emphasising the vitality of infantry. So also with the start given by children's games, as in Gesina ter Borch's 1667-9 painting of her brother Moses as a two-year-old beating a drum and surrounded by toy weapons. He was killed aged 22. In Jean-Marc Nattier's 1732 double portrait of the Duchess of Lambesc and her seven year old brother the Count of Brionne, the later is clad in armour and depicted as a commander. He was to go on to be an infantry colonel in the French army.

Linked to definition, reputation and tasking, who 'owns' the infantry is also an important issue, as in which socio-military groups were behind the infantry. For example, the citizen army of the Roman Middle Republic was an amateur militia commanded by elected officers (however much the election might not be open), a pattern that was also seen to a degree in civil wars, as in the English and American ones; although in some cases such a militia was differentiated from longer-service troops as in the Dutch Republic in the seventeenth century. The electoral dimension for officers was also present in the early stages of the French Revolution.

Elsewhere, there could be hereditary occupation classes including infantry, as in the Ming China described by Ken Swope. Yet, in many cases, the poor were particularly subject to military service, both as conscripts and as volunteers, and especially so as infantry. This was the case for example in the 1850s with the disproportionately high percentage of recent immigrants, notably Germans, in the American army, while in 1850-1900, the 85,000 men sent to serve in the Dutch East Indies (now Indonesia) were disproportionately recruited from the (poorer) rural areas.

It is also necessary to focus on the relationship with other arms. This helps establish relative significance and that is particularly helpful when infantry is not generally seen as to the fore. There is inevitably an emphasis on infantry, its role and development, in this collection, devoted as it is to infantry. This, simultaneously, poses a problem of ‘confirmation bias’; yet also is a reflection of a reality brought forward by research and analysis. Thus, a prominence for infantry is a theme in John France’s treatment of medieval Europe.⁶ This was partially contemporaneous with the ‘infantry heavy’ Ming China (1368-1644) discussed by Swope, but with Europe not generally seen in that light, a presentation that France corrects.

Similarly, as Conor Whatley argues, infantry remained important for the Byzantine (Eastern Roman) Empire in the Age of Justinian (r. 527-65), a period usually seen in terms of the Byzantine exploitation of cavalry. Heavier infantry units were developed, and infantry was important in the Byzantine wars of conquest successfully waged in Africa and Italy. So also for Byzantine allies, such as Lazica, modern western Georgia, the infantry of which was particularly important in sieges and also, deployed in a phalanx, in battle, with the phalanx incorporating archers, while the front rows were armed with bows and arrows as well as spears.⁷

Similar elements can be found for the rivals of Byzantium: the Sasanians of Persia (Iran) and, later, the Arabs, who heavily defeated both in the seventh century. Although the Sasanians, who replaced the cavalry-strong Parthians,

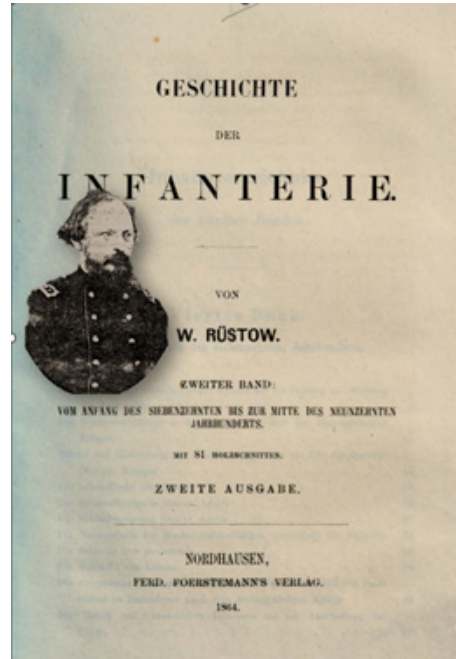
6 See also, D. Grummitt, *The Wars of the Roses. War and Martial Culture in England, 1455-1487* (Oxford, 2025).

7 N. Khoperia, ‘Lazian Army of the Lazic War (541-562 CE)’, *Journal of Politics and Democratisation*, 5 (2021), p. 39.

were generally noted for their cavalry, both heavy and light, they also had an effective infantry,⁸ as well as seeking allies who could provide more infantry strength. This was particularly so when fighting in terrain that was not suitable for cavalry, especially mountainous and wooded areas.⁹

This is an instance of the environmental adaptability that was so important to the history of both infantry and cavalry, and very much remains so for infantry and armour. The latter operates in an environment now very much extending to urban terrain. Environmental adaptability is also linked to the issues posed by siegecraft and fortification both of which heavily involve infantry. At the same time, it is necessary to combine the approach of adaptability, which is predominantly a question of method, with a task-based analysis, namely a focus on goals.

‘Tasks’ are very much political, social and economic ‘constructions’, the first providing strategic direction and the others relevant contextualisation.¹⁰ This point can be seen in the most obvious form of competition between arms, that between armies and navies, which has generally meant, prior to the changes following the introduction of tanks, between infantry or cavalry and warships. For most states, armies were more significant than navies: they were less expensive, easier to provide and sustain, and offered important capabilities in domestic control. Furthermore, navies were more vulnerable to stronger naval powers



8 J. Howard-Johnston, ‘Late Sasanian Army,’ in T. Bernheimer and A. Silverstein (eds), *Late Antiquity: Eastern Perspectives* (Cambridge, 2012), pp. 87-127.

9 K. Farrokh, *The Armies of Ancient Persia: The Sassanians* (Barnsley, 2017), p. 36.

10 For a failure to treat adequately the use of force within states, H. Scott, ‘Wars of dynasties, wars of empires: The nature of European conflicts, 1648-1792’, in D. Parrott and G. Ágoston (eds), *War. Volume III. War and the Early Modern World* (Cambridge, 2025).

than with the comparable situation on land. This, however, ensured that leading naval powers were in a different position, a situation underlined if they had an island base (Britain, Japan), a distant location far from rivals (America), and/or a maritime empire to defend (Athens, Genoa, Venice). In addition, there could be issues for naval powers relating to the problems with providing sufficient soldiers, and notably so in the absence of conscription, as for Britain.¹¹

How far ‘tasks’ contributed to combat motivation is uncertain. Much work has been devoted to more recent warfare for which sources are relatively plentiful, for example the American Civil War. Furthermore, there has been valuable discussion of how morale could change rapidly with consequences for fighting effectiveness, as with the recovery of the morale of the British Eighth Army in North Africa in 1942, from Tobruk to El Alamein.¹² Yet, for much of history, the sources are weak, such that speculation about combat motivation is a matter of unproven conjectures or of extrapolating from limited evidence. As a consequence, there can be a focus, instead, on tactical organisation in practice and theory as a better way to evaluate effectiveness. The last deals on a range of factors, including socio-economic contest. For example, in World War Two, Romanian squad firepower remained low in comparison to German and Soviet squad firepower, in part due to the lack of industry and mechanisation, and the knowledge and skills thereby derived. Military organisation can also be significant. Thus, the American army reorganised in 1939-42 from a ‘square division’ organisation, constituted in 1911, into the more manoeuvrable and smaller ‘triangular divisions’, whereas the European armies had moved to the latter during World War One.

The role of combined operations helps ensure that it is generally questionable to seek a ‘military revolution’ in developments only in one particular arm. Instead, it is co-operation between arms that was usually crucial. This was seen in the seventeenth century in China when the conquering Manchus, to a degree following the Mongols in the thirteenth century, wedded their cavalry tactics to Chinese infantry and artillery capabilities in order to create an effective military

11 A. Lambert, *No More Napoleons. How Britain Managed Europe from Waterloo to World War One* (New Haven, Conn, 2025), pp. 385, 393. Lambert, however, fails to give sufficient weight to the Indian Army, which was not raised through conscription.

12 J. Fennell, *Combat and Morale in the North African Campaign: The Eighth Army and the Path to El Alamein* (Cambridge, 2011).

able to win, and then consolidate, control over Ming China and, separately, in an episodic struggle from the 1690s to the 1750s, the steppe. This was an ‘evolutionary’ process, even if the consequences can be presented as ‘revolutionary’, not least in terms of the history of East Asia.

There is also the examination of infantry as a phenomenon, with the focus on recruitment, training, motivation, professionalism and conditions. In turn, this approach can be differentiated, especially between troops and officers, although, far from being monoliths, each can be anatomised. The officers today can receive less consideration than the troops, but are important. Part of the history of infantry indeed relates to officer-training, which itself was based on the complex interaction of ideas and practices of honour and professionalism.¹³

Compared to artillery and cavalry, training time for infantry has historically been much shorter (and easier). An infantryman did not have to master the gunner’s relatively complex technical skills, nor learn the basics of equitation to be effective, not to mention training the horses as well as the riders. The logistical and maintenance burdens were also less acute. Thus, if ‘boots on the ground’ were needed rapidly, it has almost always been easier to turn out infantry than other arms, and especially so if they were only militia or second- or third-line troops, what have been termed ‘bog standard infantry regiments’. Such forces were readily fit-for-purpose for most of the tasks required from infantry.

There is also the need to range in consideration from regulars to irregulars, and not least to consider the varied character of the latter.¹⁴ So, for example, with well-armed drug gangs, such as, on the earlier and continuing patterns of Mexico and (differently) Colombia, the Choneros, Tiguerones and Lobos in Ecuador today, gangs that are well-funded due to the profit from cocaine exports to Europe. This profit and the resulting liquidity enables the gangs to purchase weapons that the army lacks, as well as to gain information by bribing police officers. These forces also benefit from gaining psychological mastery by imposing stress and fear through violence and threats. As a result, there are high

13 K. and S. Möbius, “‘There the Officer has the Life of a Slave’: Honour, Faith and Professionalism. The Transfer of Military Values and Knowledge from Prussia to Spain in the Age of the Bourbon Reforms of Charles III,” in P. Burschel and S. Juterczenka (eds), *The Sea. Maritime Worlds of Life in the Early Modern Era* (Cologne, 2021), pp. 41–53.

14 J. Beneš, *The Last Peasant War: Violence and Revolution in Twentieth-Century Eastern Europe* (Princeton, 2025).

rates of trauma on the part of the police battling the gangs, as well as insomnia and illegal drug-taking.

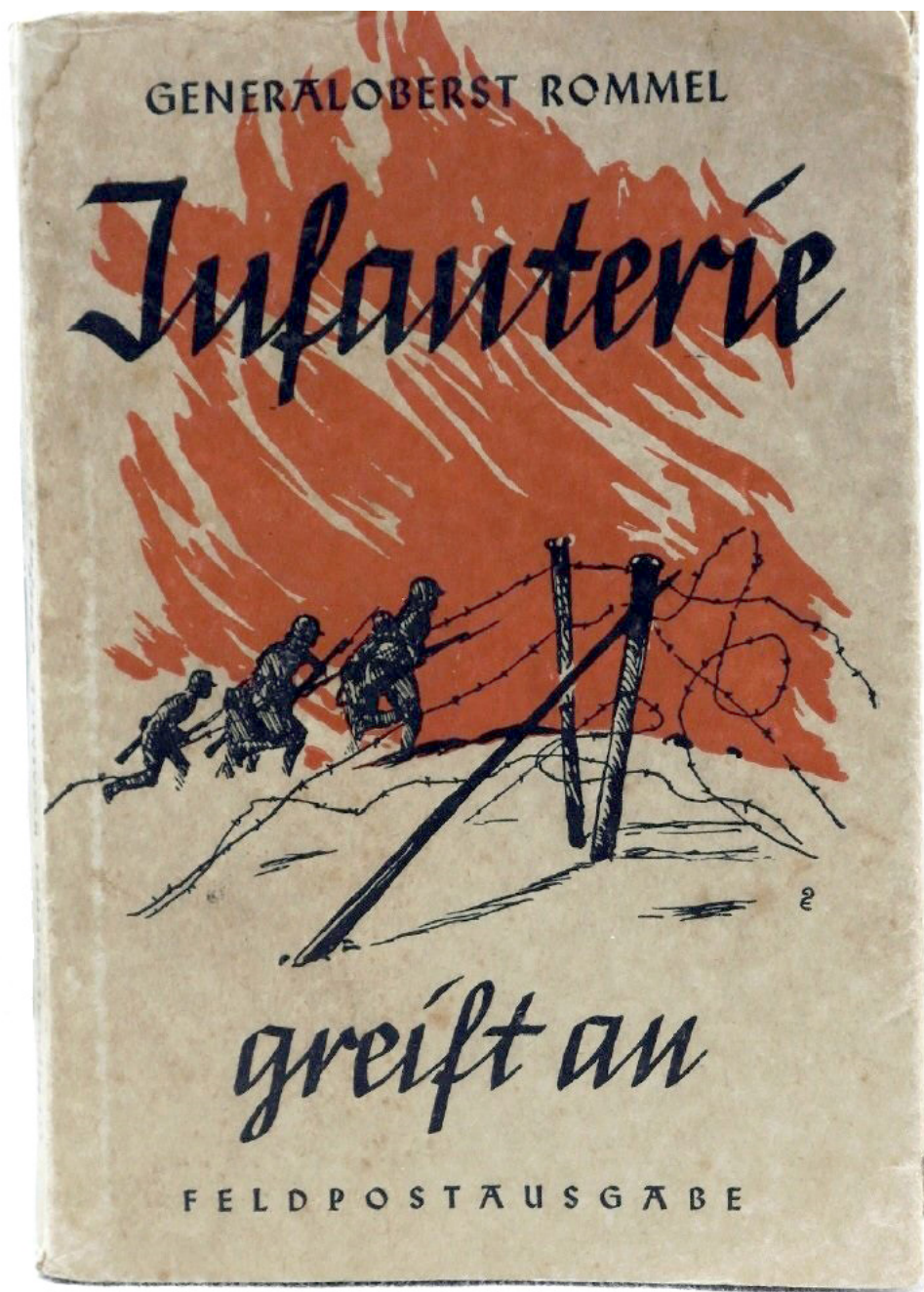
The response by the forces of the state to irregular ‘infantry’ and illegality is also very varied. In 2025, Daniel Noboa, who, in 2024, had declared Ecuador to be in a state of ‘internal armed conflict’, which allowed him to deploy the army on the streets, was re-elected as President. In responding, an overlap of infantry methods with policing can be readily seen. Thus, the (London) *Times* of 13 June 2024 referred to ‘a phalanx of shield-bearing [police] officers’ pushing back demonstrators in Buenos Aires. So also with reference to the police role in Britain in 1984 against striking miners in the ‘Battle of Orgreave’.

Terrorism and counter-terrorism can also be parts of the situation, if not equation, although some commentators, who focus on the state and the army, rather than policing and domestic control, do not see guerrillas, terrorists and narco-cartels as infantry. This approach involves emphasising the versatility of regulars in tactics, armaments and tasks, while simultaneously downplaying other approaches to the definition. Discussing this topic provides a way to approach infantry far from the general focus on battle.

At this point, it is valuable to step back and consider the major themes in the literature. Analyses, narratives and chronologies of war tend to be dominated by Western intellectual, political and military concerns, perspectives and institutional preferences, and so also with the present situation. The ‘Cold War’ that followed World War Two saw a heavy emphasis on armour and armour doctrine in the Soviet Union and America, although not in China.

As an expansion of the apparent technological optimum of the Cold War, in turn, an alleged and, for many, apparent optimum that rose into great prominence in the 1990s, whether presented in terms of the Revolution in Military Affairs, Military Transformation, Star Wars, or a bewildering host of phrases and acronyms. The concept, at once analysis and rhetoric, appeared to reach its apotheosis with the rapid American-led coalition conquest of Iraq in 2003. This was a period in which the discussion of infantry was not to the fore. Instead, airpower was emphasised.

These ideas were read back to reaffirm and extend the idea of military revolutions in the past, revolutions as both events/periods and as causes for what came subsequently. In practice, these accounts were flawed not least because



Generaloberst Rommel, *Infanterie greift an*, Feldpostausgabe, 1937

innovations such as firearms tended to be slotted into existing tactical and organisational systems as part of a more incremental process.¹⁵

However, this heavily triumphalist approach ebbed in the face of the insurgencies in Iraq and in Afghanistan, insurgencies that very much relied on fighters on the ground and had to be countered accordingly. This was a pattern earlier seen with counter-insurgency warfare in the Cold War and also, more particularly, with the American experience in the Vietnam War. There might be the nomenclature of air cavalry but the helicopter-borne forces operated on the ground as infantry supported by mobile artillery.

In the 2000s, in the place of the emphasis on military revolution, came a concern with cultural understandings and interpretations of war and military capability,¹⁶ and also a focus on what were presented as small wars. As this warfighting in Iraq, Afghanistan and elsewhere rose in severity, so infantry operations became more significant. This situation was linked to the development of practices and concepts referred to as hybrid warfare and swarming, for both of which there are historical parallels, as noted in the latter case by John Thornton for West-Central Africa.

The prospect of war over Taiwan, the major role of drones in the Russo-Ukrainian conflict of, so far, 2022-5, and the air/missile conflict between Israel and Iran in 2025, with America's intervention the same year, in turn, have lessened this focus on small wars and infantry. In short, interest in infantry, and notably so from outside the participants, is contingent, as indeed was also the case with earlier iterations.

There is nothing inherently wrong with such an instrumental cause for interest; but it can help explain why questions sometimes are badly posed, and certainly very presentist. In particular, in this case, the focus of narrative and analysis are on infantry warfare as experienced by Western forces, or in what is seen as a Western tradition, one in which there is a frequent reliance on organisation and/or technology (understood in Western terms) over manpower. In Jan Mostaert's 1535 painting 'Landscape with an Episode from the conquest of America', both sides fight on foot. Yet, there is a major contrast: the Span-

15 G. Phillips, *The Anglo-Scots Wars, 1513-1550* (Woodbridge, 1999), esp. pp. 41, 257.

16 J. Black, *War and the Cultural Turn* (Cambridge, 2012); P. Porter, *Military Orientalism. Eastern War Through Western Eyes* (London, 2009), p. 6.

iards have armour and cannon while their opponents fight naked which identifies them in Western eyes as inferior. So also with the Altdorfer depiction of Macedonians and Persians at Issus, the failure of the Ottoman siege of Vienna in 1529. Ironically, the Ottoman military machine was relatively sophisticated and its infantry reasonably effective.¹⁷

The standard focus on the Western tradition, and on organisation and/or technology, is not without value; and, in particular, important work has been produced, and is being produced on and from this tradition, as this volume shows. This is not least in terms of Western conflict with non-Western opponents, especially with the Ottoman Turks in South-East Europe. As Zoltán Peter Bagi discusses, in the case of conflict in Hungary in the sixteenth century, this conflict could see the diffusion of military techniques, as with the Ottoman learning of counter-march tactics from the Walloon mercenaries who had rebelled in 1600 against the Austrians during the 1593-1606 war with the Ottomans. There was less interchange with non-Western traditions in the nineteenth century as Western powers, instead, enforced their methods, not least on local colonial recruits.

However, a focus on Western conflict with non-Western opponents tells us very little about the situation around the world. This is the case not only, first, for the lands, in East, South-East, South and South-West Asia, in which the majority of the world's population lived (and still live), but also, secondly, the very extensive territories, in sub-Saharan Africa, Australasia, and Oceania in particular, where the Western military presence was for long non-existent or limited. Nevertheless, building on his earlier work, Thornton provides an important Portuguese perspective on the situation in sub-Saharan Africa, one that is of more general relevance.

In both of these categories of territory, although for different reasons, the experience of infantry warfare was more central, not least due to the absence of horses in many areas, especially sub-Saharan Africa and the 'pre-contact' Americas. Looked at differently, and with relevance also to areas where cavalry was present, a modern Western-centric definition of such infantry warfare as understood in the West in the past, can be of limited value.

A number of reasons come into play in considering the weaknesses of past

17 G. Ágoston, *Guns for the Sultan: Military Power and the Weapons Industry in the Ottoman Empire* (Cambridge, 2005).

and present definitions. Applicability is a key element. Thus, the stadial analysis of development advanced in the eighteenth century by commentators such as William Robertson and Adam Smith linked environment, economics, social development, state forms and warmaking. However, although this account might help explain the very marked contrasts between Australia and Western Europe, it did not adequately deal with those between East Asia and Western Europe.

An explanation of developments can be attempted from the nature of the state system. In contrast to the multipolarity of the West, and, in the eighteenth century increasingly, of India, there was no such multipolarity in East Asia and notably so after Hideyoshi's failure in the 1590s to invade Korea successfully en route for Beijing, and, again, after the defeat of the Zunghar attempt to dominate Mongolia in the 1690s. Both these episodes led to battles, and there were to be others between Manchu (Qing) and Zunghar forces in the 1710s and 1730s. However, the key element for China was not battle, and the relevant military requirements, but, rather, the defeat, overawing, or deterrence, of weaker powers that, often, did not wish to risk battle.

In short, warfare reflected a fundamental asymmetry, one in which political and social development and, crucially, demographics, was a key element, while styles of warfare, often in a related fashion, differed. In the case of the Jinchuans of south-west China in the 1740s and 1770s, this meant that Chinese forces had to confront not full-scale armies, but rather ambushes and large numbers of small stone fortresses that exploited the difficulties posed by the terrain. With the Zunghars, in contrast, it was the mobility of steppe cavalry that was the major issue for the Chinese.

These challenges meant that success for China required the massive deployment of forces in order to achieve overwhelming superiority in the area of operations, and notably along communication routes, as in the final conquest of the Zunghars in the 1750s. Governmental commitment and logistical capability were key elements in Chinese success, while attacks on supply lines were an obvious element of opposition. Thus, a 'small war' technique, the ambush, was related to the operational nexus of the strategies of the two sides. Infantry was important to both.

'Small war' was also significant for another major branch of Chinese military activity, that of repressing rebellion, although the scale involved might

be very far from small. This was a major task throughout history, culminating with the Communist insurgency of the 1930s, which was initially contained but which proved impossible to suppress. Counter-insurgency operations equated with large-scale 'small war', and underline the problems involved in using the latter term. This point is more generally true of much civil warfare, as in the Russian Civil War. It was not the case of the American Civil War, which was in general (although with important exceptions, notably in Appalachia) a matter of conventional warfare.

Turning to India, the major themes were different to the situation in China, while the emphasis was more clearly on cavalry. Although large numbers of infantry were also generally employed in India they were usually less consequential than the cavalry. Counter-insurgency conflict was less significant, while battles played an important role in the struggles between Indian polities, for example the wars of the Nizams of Hyderabad with the Marathas in the eighteenth century. At the same time, the manoeuvrist warfare of these struggles involved a gesture-display of shows of power which can be seen, in one light, as limited war, and notably so when contrasted with large-scale battles. This manoeuvrist warfare also entailed denying opponents supplies, while obtaining those for one's own side, both of which meant a focus on cavalry. Raids played an important part in both operational goals, and also served to recruit support and to undermine the cohesion of opponents. Thus, 'small warfare' again had tactical, operational and strategic meaning.

'Small war' extends on the global scale to be part of the rethinking of infantry, as well as of military history in general. This is particularly so for two reasons, first because it directs due attention, both in terms of coverage and analytically, to the non-West, and, secondly, because it moves away from the emphasis on war-winning through large-scale battle. Instead, a concept of fitness for purpose, tactical, operational and strategic, is introduced. This is a concept that, despite its emphasis on adaptation (a progressivist view), is not inherently developmental in its consequences. Adaptation, indeed, can mean responding to existing circumstances, not least social norms and fiscal costs that might preclude, lessen or constrain the use of new technology or organisational methods, or, indeed, any change.

Furthermore, developmental ideas focused on the state, whether or not de-

scribed in terms of putative military revolutions, should take note of the often very different reality on the ground, which is why it is always valuable to consult archival material, however much it might prove a gritty obstacle to easy overarching interpretations. This was the case for example with Britain, generally seen as the beneficiary of a 'Financial Revolution' in the eighteenth century.¹⁸ The description of the army sent to Germany in 1758 was bleak:

'No contractors, no regular magazines [stores] ... a continual rain ... the bread for want of covered waggons is dissolved ... as is the two days bread the men had in the knapsacks.... There has not been a pot boiled these two days, the rain put out all the fires ... there are potatoes ... which the men will get if the waters fall a little.'¹⁹

Following heavy rain in northern Germany in August 1758, Charles, 3rd Duke of Marlborough, the Commander of the British force, observed 'the foot have marched the last day almost up to their middle in water the whole way.' He died of dysentery two months later. In 1762, in a different climate, the British infantry found supplies lacking in allied Portugal, and the men 'were fainting with the heat and want of food.'²⁰ In 1777, General John Burgoyne's advance south from Canada to the Hudson Valley was threatened by a failure in supplies. As he subsequently told the House of Commons: 'It was soon found that in the situation of the transport system at that time, the army could barely be victualled from day to day, and that there was no prospect of establishing a magazine in due time.' However, so also for his American Patriot opponents in this campaign, Major-General Philip Schuyler noting at one stage 'we have no cartridge paper.'²¹

And so also when not on campaign: John, 4th Earl of Loudoun's 1,450 strong regiment garrisoning Fort Augustus in the Scottish Highlands was short 1,057

18 P.G.M. Dickson, *The Financial Revolution in England: A Study in the Development of Public Credit, 1688-1756* (London, 1967); J. Brewer, *The Sinews of Power: War, Money and the English State, 1688-1783* (London, 1989).

19 Hatton to Robert, 4th Earl of Holderness, Secretary of State for the Northern Department, that responsible for relations with German states, 18 July 1758, BL. Eg. 3443 f. 34, 42. On Hatton, H.M. Little, *The Treasury, the Commissariat and the Supply of the Combined Army in Germany during the Seven Years War, 1756-1763* (DPhil, London, 1981).

20 San Marino, California, Huntington Library, Loudoun papers, no. 10125.

21 William Cobbett (ed.), *Parliamentary History of England* (36 vols, London, 1806-20), *House of Commons*, XX, 794; *The Papers of George Washington. Revolutionary War Series* (Charlottesville, Va., 1985-), X, 230.

pairs of shoes. It was not until the mid-nineteenth century that the invention of canned meat, dried milk powder, evaporated milk and margarine changed the perishability and bulk of provisions, and thus helped ensure a more regular availability of rations, a measure important to health and morale.

The very slow spread of barracks, an expensive device, earlier ensured that troops were frequently quartered among the civilian population, which made it easier for troops to pursue civilian trades. In Russia, it was not decided to house all Moscow's soldiers in barracks until 1765, while, although there were many barracks in Ireland by the later 1720s, there were very few in Britain prior to 1793 when war began with Revolutionary France. This situation made it harder to maintain discipline and train troops, and even to develop a distinctive military attitude, while making relations with civilians more contentious. The use of barracks became more important in Austria, France and Prussia in the second half of the eighteenth century, but barracks were often unpleasant for the soldiers, frequently being gloomy, damp and insanitary. This helped in the spread of disease. The conditions for troops were far from good.

Returning to 'small war' and the major role in it of infantry, both can seem to have more relevance when large-scale military operations face problems. Furthermore, infantry is particularly necessary when the holding of ground is consequential for control and/or defensive reasons, and also more systematic advances require more infantry as with the British advance in the Lower Rhineland in early 1945. Differently, looking to the present, the insurrectionary and counter-insurgency nature of much modern warfare can be reconsidered, and not least because of the use of the military, particularly infantry, for much civil order and policing work in the past as well as the present. This point is more pertinent than the somewhat recently faddish one focused on the experience of American (and allied) forces in Iraq and Afghanistan, because whereas they were expeditionary forces in 'wars of choice', domestic order more generally is a key task for armies, and both chronologically and geographically.

Furthermore, as Jack Gill points out in his chapter, infantry could be very differently effective on the defensive and the offensive. Domestic order tends to put a particular focus on both. Indeed, it is the variety of tasks that infantry can fulfil (as a result of its flexibility) that is so important to infantry's history, present role, and future possibilities.

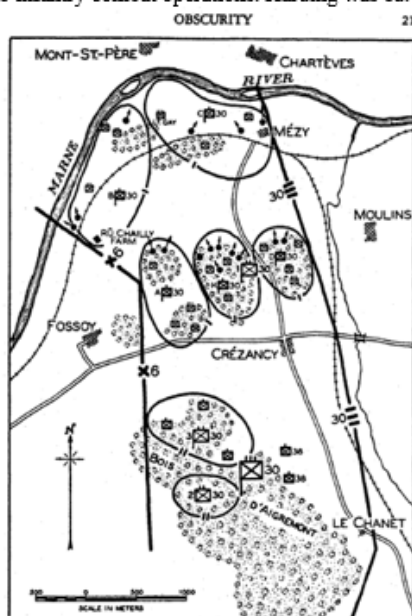


CIL-1945/61

Infantry in Battle, by Major General Edwin F. Harding (1886-1970), was the WW II officer's guide to infantry combat operations. Harding was ed. of the book which is still used as a reference today.

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Example 2-A



Men Win Wars: A Historical Primer Assessing Infantryman's Will to Fight

by EDWARD A. GUTIÉRREZ

I remember a discussion which I had with a Russian who had served in the French Foreign Legion, as to what the individual man who had been part of the war had got out of it. On the one hand, you had Barbusse declaring that all the war did to a man was to deprave him. On the other hand, you had Alan Seeger and a throng of idealists of all nations declaring that they had found the purpose of their lives in the sacrifice. What was the explanation of these irreconcilable points of view? My Russian gave an answer that was very true. "Men get out of the war," he said, "what they brought to it. The hero found heroism; the coward found cowardice. Except in rare instances the war did not recreate men; it only made emphatic in them tendencies that had been latent. Now that the war's ended, bad men are a little worse for their experience; honorable men are a little more good." The men depicted in "Three Soldiers" got out of the war what they brought to it—low ideals and bitterness...The voice of righteousness is never once sounded; the only voice heard is the voice of complaint and petty recrimination.

—Coningsby Dawson, 1921.¹

When Samson took the fresh jawbone of an ass and slew a thousand men therewith he probably started such a vogue for the weapon...Yet, despite its initial popularity, it was discarded...History is replete with countless other instances of military implements each in its day heralded as the last word—the key to victory—yet each in its turn subsiding to its useful but inconspicuous niche. Today machines hold the place formerly occupied by the jawbone, the elephant, armor, the long bow, gun powder, and, latterly, the submarine. They, too, shall pass...New weapons are useful in that they add to the repertoire of killing, but, be they tank or tomahawk, weapons are only weapons after all. Wars may be fought with weapons, but they are won by men. It is the spirit of the men who follow and of the

¹ Coningsby Dawson, "Insulting the Army," *New York Times*, 2 October 1921.

man who leads that gains the victory. In the biblical times this spirit was ascribed and, probably with some justice, to the Lord. It was the spirit of the Lord, COURAGE, that came mightily upon Samson at Lehi which gained the victory—not the jawbone of an ass.

— George S. Patton, 1933.²

The deep insight into the human condition provided by these two combat veterans of the world wars—Dawson in the first, Patton in both—encapsulate this chapter's thesis: modernity's worldview and technological determinism disorder our understanding of the infantryman's will to fight, thereby hindering war's acceptance and the infantryman's permanence of place within it. Human nature is static. St. Augustine understood this crucial aspect preventing perpetual peace: mankind's *libido dominandi* (lust to dominate).

Throughout his life Augustine struggled with how a moral man confronts an immoral world, but with Rome's sack in AD 410, it was then he grasped the full weight of humanity's fallen nature as he constructed his masterpiece, *City of God*, where he asserts, "Even peace is a doubtful good, since we do not know the hearts of those with whom we wish to maintain peace, and even if we could know them today, we should not know what they might be like tomorrow."³ Augustine acknowledges that man can only battle against the *libido dominandi*, but never extinguish it...it is a temporal reality we accept in our fallen world. Therefore, since war interweaves with human nature, it behooves us to study the past to better understand the backbone of every military: the infantryman and his will to fight.

This chapter serves as a brief introduction to assessing the infantryman's will to fight (combat motivation) through a historical lens rather than modernity's social science model (i.e., economics and politics)—these modern disciplines should augment not replace historical analysis and lessons learned from the past.⁴ The historian's task is to discern constancy from change whilst extracting

2 George S. Patton, "Mechanized Forces," *Cavalry Journal* 42, no. 179 (September-October 1933), 8.

3 St. Augustine, *Concerning the City of God against the Pagans*, trans. Henry Bettenson (New York: Penguin, 2003), 858 (XIX.5).

4 Historians do tackle the subject, but they are the minority. Excellent examples include: Ri-

wisdom from the past to instruct the present. Otherwise, the historian risks antiquarianism. Considering this, the chapter's first section unpacks combat motivation (delineated so well by Dawson and Patton above); and the second section provides historical evidence of infantryman combat motivation across time and place. The latter section employs acumen from this volume's contributors—the author is indebted to the scholars who submitted requested analysis within their subject matter expertise concerning the infantryman's will to fight.

A taut way to grasp the historic infantryman's will to fight is what I call, C4: cause, commander, comrade, compensation. One or all four can define an infantryman's motivation. In addition, each factor stems variations, for example, the cause can be based upon religious and philosophical beliefs (e.g., for God and country) or ideological ones motivating the Continental Army during the American Revolution, or one of self-conquest—defeating the enemy, seeking glory, reputation, or status; the commander can be a charismatic king or general that inspires his infantryman to victory and heroism; the comrade becomes a fraternal brother-in-arms that an infantryman will give his life to save (i.e., St. John 15:13); and compensation takes many forms—money, land, goods, animals, captives—and can fuel both gain and survival (e.g., sustenance for self or family).

The Modern Worldview and Technological Determinism

There are two essential threads that cloud our understanding of the infantryman's will to fight: modernity's worldview and technological determinism. In the first quotation above, whilst reviewing John Dos Passos's Lost Generation antiwar novel, *Three Soldiers*, Great War veteran Coningsby Dawson articu-

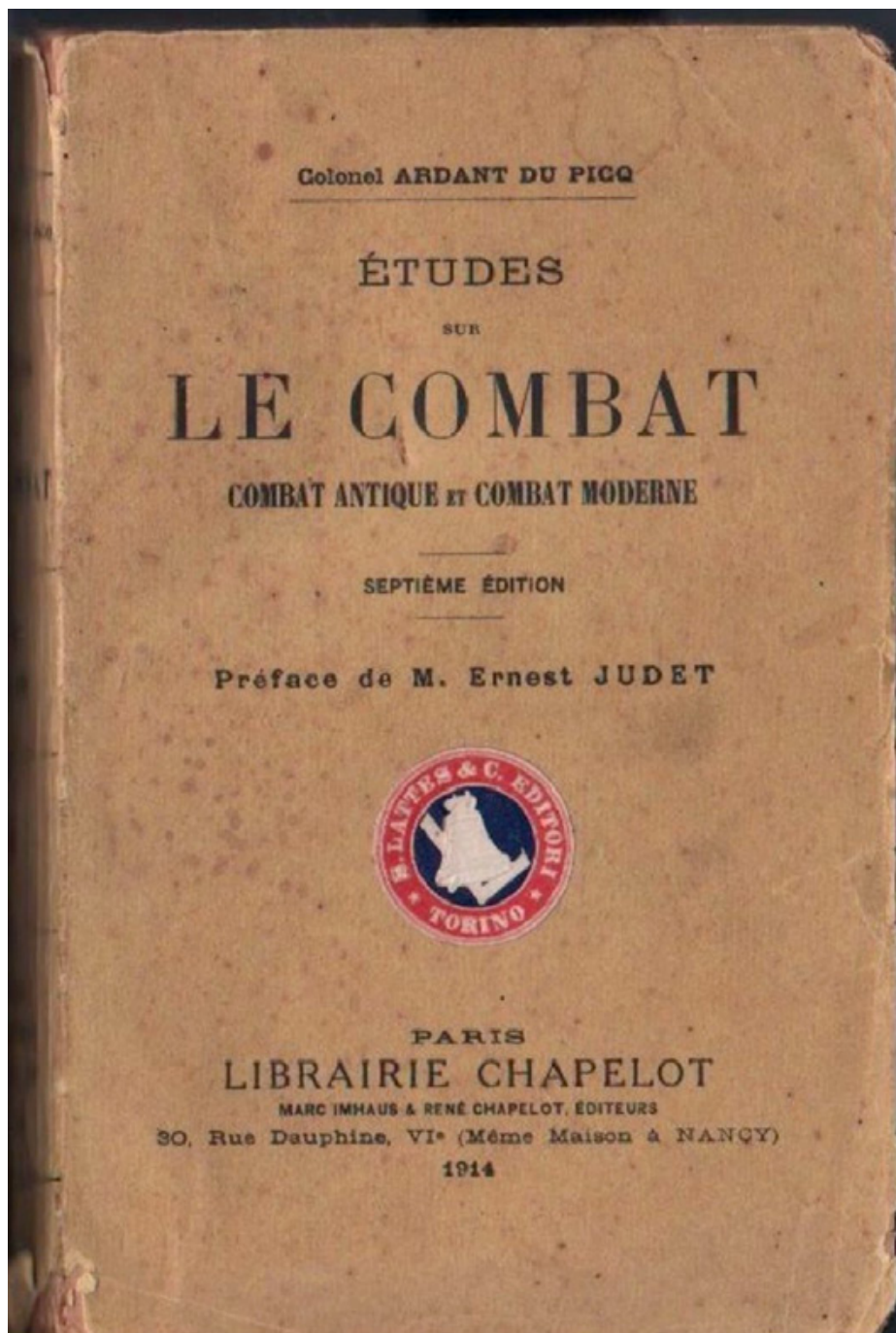
chard S. Faulkner, *Pershing's Crusaders: The American Soldier in World War I* (Lawrence: University Press of Kansas, 2017); Roger R. Reese, *Why Stalin's Soldiers Fought: The Red Army's Military Effectiveness in World War II* (Lawrence: University Press of Kansas, 2011), Alexander Watson, *Enduring the Great War: Combat, Morale and Collapse in the German and British Armies, 1914-1918* (Cambridge: Cambridge University Press, 2008); and Earl J. Hess, *The Union Soldier in Battle: Enduring the Ordeal of Combat* (Lawrence: University Press of Kansas, 1997); as well as the three volume collection examining the world wars by Allan R. Millett and Williamson Murray, eds., *Military Effectiveness*, 2nd ed., vol I: *The First World War*; vol. II: *The Interwar Period*; vol. III: *The Second World War* (Cambridge: Cambridge University Press, 2010). See also Williamson Murray, *War, Strategy, and Military Effectiveness* (Cambridge: Cambridge University Press, 2011).

lates the first issue concerning modernity's worldview well. Dawson, quoting his Russian friend, declares, "Men get out of the war...what they brought to it." Thus, when examining the infantryman's will to fight, we are not examining war, we are examining human nature. What does the infantryman believe before he enters combat and what sustains him during battle? What defines him? Does he accept war as an aspect of the human condition or does war require explanation as an evil incongruity? As Dawson makes plain: man shapes the event, the event does not shape man. In other words, the infantryman's *telos* (end), his teleology—his understanding of his own end (i.e., death as encounter or nothingness), his moral code, his worldview—define his will to fight.

Since readable documentation began c. 3200 BC, the humanities (the arts), above all, history, were mankind's font for the answers to war, to life itself. Across the globe, man looked back to the past, examining it for wisdom from both sacred and secular sources, thus, tradition served as guide. But beginning in the late eighteenth century, and becoming more acute with each passing decade, modernity, above all in the West, began seeing war as an anomaly, a perverse, clinical condition curable by the social sciences. History did not have answers, only inferior beings who lacked modernity's superiority. Moreover, war equated only horror, and positions such as Dawson and his Russian friend became the disordered ones requiring clinical diagnoses. As Nigel C. Hunt decrees, "We have now almost reached the stage where we expect people to break down after a traumatic event, and there is something wrong if they do not. In a single century we have seen views go from one extreme to the other, from the view that breakdown was a capital offence to the view that not to break down is a sign of a problem."⁵

Although this reversal first began with Darwinian and Marxian materialist worldviews that solidified at the turn of the last century, the most recent signpost occurred with the fall of the Berlin Wall on 9 November 1989 and the Soviet Union on 25 December 1991, when the West believed they defeated history with liberal democracy. Within the corridors of power, from Washington to London, from Rome to Canberra, the Francis Fukuyama thesis of the end of history and

5 Nigel C. Hunt, *Memory, War and Trauma* (Cambridge: Cambridge University Press, 2010), 123.



democracy's transcendence hardened.⁶ Conventional warfare was dead. Divisions of infantryman were no longer necessary. The rest of the world would come around to worship liberal democracy as well. The West was wrong.

The Russo-Ukrainian War begun on 24 February 2022 and the wars across the Middle East beginning on 7 October 2023, brought the world (i.e., the West), back to war's reality—it is an integral part of the human condition and the infantryman's role is paramount. In a bizarre paradox, it was as if the wars in Afghanistan and Iraq never occurred, where the infantryman served, as always, as the military vanguard. In the few years before, and in particular, since 2022, an interest flourished within infantryman will to fight literature.⁷ While most of these publications feature perceptive knowledge into infantryman's combat motivation, these studies always approach the topic from a social science perspective, thus, limiting their understanding and scope only to modern wars—the

6 See Francis Fukuyama, *The End of History and the Last Man* (New York: Free Press, 1992). He reinforces his thesis when considering the Russo-Ukrainian War; see Francis Fukuyama, "A Country of Their Own: Liberalism Needs the Nation," *Foreign Affairs* (May/June 2022) and for a more in-depth view, see Francis Fukuyama, *Liberalism and Its Discontents* (New York: Farrar, Straus, and Giroux, 2022).

7 The following are examples of recent will to fight white papers, with the last three RAND studies led by Ben Connable being the most detailed: Roderick Parkes, "Not Withstanding?: An Upbeat Perspective on Societies' Will to Fight," NATO Defense College, May 2025, https://www.ndc.nato.int/wp-content/uploads/2025/07/2025_Insight-05.pdf; Benjamin A. Okonofua, Nicole Laster-Loucks, and Andrew Johnson, "'Will to Fight': Twenty-First-Century Insights from the Russo-Ukrainian War," *Military Review*, May-June 2024, <https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/May-June-2024/MJ-24-Will-to-Fight/Loucks-Will-to-Fight.pdf>; Ben Connable, "Iraqi Army Will to Fight: A Will-to-Fight Case Study with Lessons for Western Security Force Assistance," RAND, 11 January 2022, https://www.rand.org/pubs/research_reports/RRA238-1.html; Ben Connable, Michael J. McNerney, William Marcellino, et. al., "Will to Fight: Returning to the Human Fundamentals of War," RAND, 13 September 2019, https://www.rand.org/pubs/research_briefs/RB10040.html; Ben Connable, Michael J. McNerney, William Marcellino, et. al., "Will to Fight: Analyzing, Modeling, and Simulating the Will to Fight of Military Units," RAND, 20 September 2018, https://www.rand.org/pubs/research_reports/RR2341.html; and Michael J. McNerney, Ben Connable, S. Rebecca Zimmerman, et. al., "National Will to Fight: Why Some States Keep Fighting and Others Don't," RAND, 20 September 2018, https://www.rand.org/pubs/research_reports/RR2477.html. Also see two recent published monographs: Ben Connable, *Ground Combat: Puncturing the Myths of Modern War* (Washington, DC: Georgetown University Press, 2025); and Kirstin J. H. Brathwaite, *Symbols and Sacrifice in War: National Identity and the Will to Fight* (Washington, DC: Georgetown University Press, 2025).

earliest starting point being World War I. Moreover, military historians (or any historian) make a rare appearance in all will to fight studies and articles, and these references stem from popular works, such as Sir John Keegan's *Face of Battle* published in 1976.

Nonetheless, the current wars in Eastern Europe and the Middle East serve as a reminder to those who believed that war's curse abated from humanity. This line of reasoning, such as the works of Steven Pinker, assume we continue to progress and become less violent because no major global wars occurred since 1945.⁸ Historical truth educates otherwise.⁹ While there will always be a concern for the cost of war, none know what the future holds and what the circumstances might be when the cost must be paid. As Thucydides asserts, "In peace and prosperity states and individuals have better sentiments, because they do not find themselves suddenly confronted with imperious necessities; but war takes away the easy supply of daily wants and so proves a rough master that brings most men's characters to a level with their fortunes."¹⁰ The West casts value judgements with ease on the past, but our comfortable armchairs do not provide the appropriate vantage point to witness the sobering realities of life on the frontline, such as Ukraine, the Middle East, or the African Sahel and Great Lakes regions. But we should not require those reminders since war is the story of mankind.

Modernity's muddled worldview is amplified by technological determinism, illustrated by Patton at this chapter's start. The escalating dependency on science and technology further severs our understanding of war and the infantryman's

8 For example, see Steven Pinker, *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress* (New York: Viking, 2018). Paul Weithman counters this school of thought well. He contends, "Many of the best political theories now on offer are premised on psychologies that are extremely optimistic. They leave us without the conceptual resources necessary to understand the evil which human beings visit on one another." Paul Weithman, "Augustine's Political Philosophy," *The Cambridge Companion to Augustine*, 2nd ed., eds. David Vincent Meconi and Eleonore Stump (Cambridge: Cambridge University Press, 2014), 249.

9 Tanisha M. Fazal and Paul Poast provide a superb review of this certainty, and note that the world wars "have severely skewed our sense of what war is" due to their size and scale. Tanisha M. Fazal and Paul Poast, "War Is Not Over: What the Optimists Get Wrong about Conflict," *Foreign Affairs* (November/December 2019).

10 Thucydides, *History of the Peloponnesian War* in *The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War*, ed. Robert B. Strassler, trans. Richard Crawley (New York: Free Press, 1996), 199 (III.82).

crucial role within it, to the point where war becomes, like the rest of life, a matter of technological determinism. Whilst studying and experiencing nineteenth century technological changes in firepower (e.g., the Minié ball), French Army Colonel Ardant du Picq knew focusing on scientific innovation and technology rather than the infantryman, man himself, does not produce understanding, preparedness, nor battlefield victory. “Battle is the ultimate purpose of armies, and man is the ultimate instrument of combat,” declares du Picq.¹¹ Military historian Christopher Allmand agrees. “War should be studied through those who take part in it, so that the attitudes and human reactions of those involved may be appreciated, and the phenomenon of war may thus come to be better understood,” remarks Allmand.¹² Indeed, the human element is paragon.

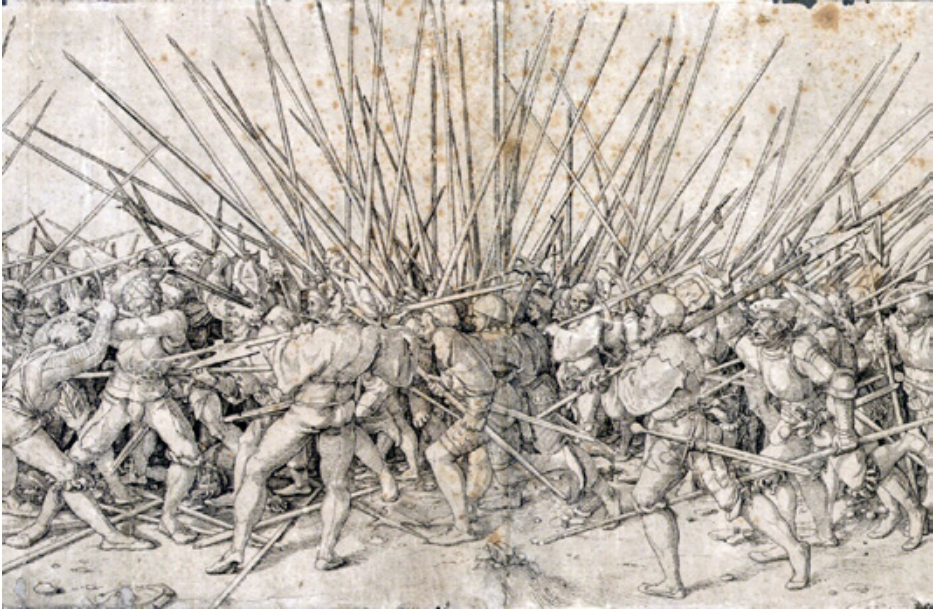
The key issue for du Picq was maintaining morale against firepower’s increased lethality...always a concern...but today amplified by the West’s unrelenting reliance on AI, robotics, and autonomous weapons systems (AWS), including the omnipresent drone. All this technology, however, further distances infantry from battlefield, not only physical, but more critical, teleological distance as well. Therefore, escalating technological dependency erodes understanding of war, which is normative and entwined within the human condition—as humanity’s technological reliance increases, understanding of and coping with war diminishes.

When discussing war, concepts such as revolution in military affairs (RMA), fourth-generation warfare (4GW), and hybrid warfare amplify the West’s growing physical and mental proximity gap to war.¹³ Technological determinism resides at the core of these three theories (and their ceaseless derivatives); in other words, modernity believes that technology determines war’s outcome and controls history, not man. Within our current context, folding it into Patton’s assessment: drones are the new jawbone. In fact, the drone revolution prophets

11 Charles Jean Jacques Joseph Ardant du Picq, *Battle Studies*, trans. and ed. Roger J. Spiller (Lawrence: University Press of Kansas, 2017), 3.

12 Christopher Allmand, *The Hundred Years War: England and France at War c. 1300 – c. 1450*, 2nd ed. (Cambridge: Cambridge University Press, 2001), 4.

13 For a superb debunking of the first two, see Jeremy Black, *War and Technology* (Bloomington: Indiana University Press, 2013); and for the latter, see Williamson Murray and Peter R. Mansoor, eds., *Hybrid Warfare: Fighting Complex Opponents from the Ancient World to the Present* (Cambridge: Cambridge University Press, 2012).



increase each week arguing that the infantryman is obsolete against the omnipotent drone swarm and EU and NATO member states discussion of a drone wall for protection...thoughts drift to France's Maginot Line. Only a few thinkers have taken Patton's position; one example being Jakub Jajcay, a former officer in the Armed Forces of the Slovak Republic who served in Ukraine or Benjamin Jensen's appraisal of the immense ground forces required to provide defense-in-depth level security in Ukraine.¹⁴

These revolutionary theories and technologies receive widespread acceptance due to modernity's reliance on technology and deification of science. But as strategist Colin S. Gray asserts: "Weapons and the military technologies that

14 See Jakub Jajcay, "I Fought in Ukraine and Here's Why FPV Drones Kind of Suck," *War on the Rocks*, 26 June 2025, <https://warontherocks.com/2025/06/i-fought-in-ukraine-and-heres-why-fpv-drones-kind-of-suck/>; and Benjamin Jensen, "What Would Security Guarantees in Ukraine Look Like?," Center for Strategic and International Studies, 20 August 2025, <https://www.csis.org/analysis/what-would-security-guarantees-ukraine-look>. For an earlier assessment from a leading strategist, see Sir Lawrence D. Freedman, who confirms, "Drones cannot have a decisive impact on their own, even in a counterterrorism campaign." Lawrence D. Freedman, "The Drone Revolution: Less Than Meets the Eye," *Foreign Affairs* (November/December 2016).

they render operational are the servants, not the masters, of policy and strategy.”¹⁵ Yes, technology influences tactics and operations, but it should not craft strategy—all the weapons in the world are useless without the will to use them. Nor should the modern worldview’s ahistorical will to fight conception cloud infantryman motivation. But due to Darwinian formulations of progress and amplified by technological determinism, only ideas and peoples that make a supposed advance are valued, as a result, modernity hinders its understanding of the infantryman’s will to fight as well as the human condition itself. Behind all human will is the power of belief, and for our current study, what fuels the infantryman’s beliefs, willing him to strive for victory. The cure for hindsight bias is seeking wisdom from history—looking back to better understand infantryman motivation, not on modernity’s terms, but the past’s own.

Understanding Historical Infantryman’s Will to Fight

Until the Second World War’s end, from the Mediterranean to the Hindu Kush to the Yellow Sea, mankind accepted war’s permanence of place. The entire world was the frontline. Due to man’s *libido dominandi*, all countries required infantry. They still do. It is too convenient and ahistorical to construct the past as one of conquest and ignorance. People faced death and pain from birth to a degree we cannot fathom. Infant mortality was circa 30 percent and people died from infections and disease with limited scientific explanation. Death in war was one of a multitude of ways to die. War was omnipresent. Yet, in a place like ancient Greece, “The corpse itself inspired little horror,” finds Robert Garland.¹⁶ The ancient Greeks believed life is *stasis*—struggle, conflict, strife. Around 700

15 Colin S. Gray, *Weapons Don’t Make War: Policy, Strategy, and Military Technology* (Lawrence: University Press of Kansas, 1993), 170. For further insights into technological overreliance see the works of James Johnson, in particular, “The AI Commander Problem: Ethical, Political, and Psychological Dilemmas of Human-Machine Interactions in AI-enabled Warfare,” *Journal of Military Ethics* 21, no. 3-4 (February 2023): 246-271; and Paul Scharre, *Army of None: Autonomous Weapons and the Future of War* (New York: Norton, 2019). A fascinating counterpoint, arguing for robot autonomy, are David J. Gunkel’s works, in particular, see *Robot Rights* (Cambridge: MIT Press, 2018). For an overview of the topic, including military applications, see Patrick Lin, Keith Abney, and George A. Bekey, eds., *Robot Ethics: The Ethical and Social Implications of Robotics* (Cambridge: MIT Press, 2018).

16 Robert Garland, *The Greek Way of Death*, 2nd ed. (Ithaca: Cornell University Press, 2001), 122.

BC, whilst reflecting on *stasis*, Hesiod concludes that *stasis* “encourages war and evil battle, wretched; no man loves her, but by necessity, through the will of the deathless ones, they honor the oppressive Strife.”¹⁷ Hesiod is right: life is *stasis*. The deathless ones—the gods (or God)—shaped the world. Until recent times *stasis* did not require explanation. Mankind (and infantrymen) accepted war’s certainty: from rulers down.

That is not to say every infantryman possessed Samson’s resolve. Divine-infused and iron-forged will to fight was not universal—the *libido dominandi* and fear existed then, as now—but the concepts of honor and duty played greater roles in history and occupied infantrymen’s thoughts more often. Core concepts like ancient Greek *aretē* (excellence) and Confucian *ren* (benevolence) permeated premodern worldviews.¹⁸ Again, these concepts still exist, but pervade from within (the combat unit) rather than without (society), a good example being the United States’s Navy SEAL Code, part of which reads: “Serve with Honor and Integrity On and Off the Battlefield...Earn your Trident Every Day.”¹⁹ As we see below, other motivations, such as booty (e.g., money, material goods, animals, humans), brotherhood, conquest, fame, glory, and survival fueled the infantryman’s will to fight throughout history as well, however, the premodern worldview was more honest about the defensive measures the state needs to protect citizens from conquest.

The Assyrians, Babylonians, Chinese, Egyptians, Greeks, Indians, Persians, and Romans all fought continuous internal and external wars for survival, but nonstate actors from the frontiers (e.g., the Steppe) also waged endemic warfare. Thus, war was not bound by any theological, sociocultural, or political strand. *Stasis* entwined all. Indeed, the less we seek history’s wisdom, the deeper we

17 Hesiod, *Works and Days* in *The Poems of Hesiod: Theogony, Works and Days, and the Shield of Herakles*, trans. Barry B. Powell (Oakland: University of California Press, 2017), 109 (15-17); see also, *Theogony*, 45 (179-186).

18 A. W. H. Adkins, *Moral Values and Political Behaviour in Ancient Greece: From Homer to the End of the Fifth Century* (New York: Norton, 1972), 6; and later Adkins invokes Greek lyric poet Bacchylides, who proclaims, “*Arete* demands toil,” 62. For *ren* see Confucius, *The Analects: A Norton Critical Edition*, trans. Simon Leys, ed. Michael Nylan (New York: Norton, 2014), 64, 79-80, also see 62-64 for Leys’s analysis of *junzi* (gentleman) where he includes C. S. Lewis’s reflections concerning social-ethical word deterioration in Western Civilization.

19 Don Mann and Lance Burton, *Navy SEALs: The Combat History of the Deadliest Warriors on the Planet* (New York: Skyhorse Publishing, 2019), 309.

succumb to false narratives of the human condition and lose our grasp on understanding infantry combat motivation. Centuries of proximity are no excuse.

Returning to the ancient Greeks, during the Archaic and Classical Periods (c. 750-323 BC) several hoplite (infantryman) will to fight factors remain consistent: *kleos* (glory, fame), territory, and compensation. Inspired by Homer, the pursuit of *kleos* served as a vital motivation for a hoplite. If fortunate, a warrior would gain *kleos aphthiton* (imperishable glory), thus, after his death, people would continue to remember him (this phrase mirrors the Sanskrit *sravas aksitam* found within Indian epic poems). *Kleos* entwines with the motivations of territory and booty for hoplites due to the status and wealth conferred in attacking other *poleis* (city-states) or defending your own against rival Greeks or invading Persians, and across the Aegean Sea for Ionians, non-Greek rivals (e.g., Lydians, Cimmerians, Persians).²⁰

Whilst many authors and traditions shaped these motivations, the Homeric epic poems (written in Ionic Greek) left the vastest legacy, influencing not only hoplites but philosophers such as Plato and Aristotle as well as the Romans centuries later, which includes thinkers like the Early Church Father Clement of Alexandria. The Homeric poems served as handbooks for guidance and instruction—the *Iliad*’s infantryman burst with a balanced temperament of *andreia* (courage) and acceptance. A superb example being Automedon, who declares, “But all lies in the lap of the great gods. I’ll fling a spear myself and leave the rest to Zeus.”²¹ Automedon does his best, as for the rest, the gods decide. Warriors like Automedon receive *kleos* (glory), *timē* (honor), and *geras* (gift of honor) for their actions.²²

Hector’s conversation with his wife, Andromache, serves as a second stellar example of ancient Greek combat motivation. “I would die of shame to face the men of Troy and the Trojan women trailing their long robes if I would shrink from battle now, a coward. Nor does the spirit urge me on that way. I’ve

20 Subject matter expertise provided by Ethan Coulson-Haggins during correspondence with author.

21 Homer, *The Iliad*, trans. Robert Fagles (New York: Penguin, 1998), 458.

22 When examining these three conceptions Seth L. Schein emphasizes that “Life is lived and death is died according to this code of values.” Seth L. Schein, *The Mortal Hero: An Introduction to Homer’s Iliad* (Berkeley: University of California press, 1984), 71.

learned it all too well. To stand up bravely, always to fight in the front ranks of Trojan soldiers, winning my father great glory, glory for myself,” explains Hector. When thinking of his son, Astyanax, Hector hopes Astyanax surpasses him, praying, “Grant this boy, my son, may be like me, first in glory among the Trojans, strong and brave like me, and rule all Troy in power and one day let them say, ‘He is a better man than his father!’”²³ The *Iliad* ends with praise for the Trojans and an evocation of Automedon’s maxim noted above—the poem’s essential theme: “They shared a splendid funeral feast in Hector’s honor, held in the house of Priam, king by will of Zeus.”²⁴

As Jasper Griffin acknowledges, “We are not dealing with berserkers in the pages of Homer...Self-respect, respect for public opinion, the conscious determination to be a good man—these motives drive the hero to risk his life.”²⁵ A wonderful summation of ancient Greek combat motivation derives from the brilliant Greek tragedian Aeschylus (c. 525-455 BC), whose plays continue to instruct us on understanding ourselves. Aeschylus also fought against the Persians at Marathon (490), where his brother died in combat, and Aeschylus also fought at Salamis (480). His tomb’s epitaph is telling. It proclaims that posterity should remember his service at Marathon and never mentions he was a playwright.²⁶ *Kleos aphthiton* at its finest.

The ancient Near East provides a wealth of insight regarding infantryman combat motivation. Although most voices stem from literature and commanders, the sources still provide a rich tapestry. Sumerian and Akkadian literature abound with will to fight language. Written around 2000 BC in ancient Sumer (modern southern Iraq), in one of the longest Sumerian poems to survive, the warrior (and agricultural) god Ninurta, who fights at his father’s command and to defend the gods, faces his enemies with courage. In one conflict, Ninurta “went into the rebel lands in the vanguard of battle...The Hero hastened to the battle.” The poem ends that “it is sweet to praise” Ninurta.²⁷ We read parallel

23 Homer, *Iliad*, 210-211.

24 Homer, *Iliad*, 614.

25 Jasper Griffin, *Homer on Life and Death* (Oxford: Oxford University Press, 1980), 92.

26 Aeschylus, *Aeschylus I*, eds. David Grene, Richmond Lattimore, Mark Griffith, and Glenn W. Most (Chicago: University of Chicago Press, 2013), 1.

27 “Ninurta’s exploits,” in Jeremy Black, Graham Cunningham, Eleanor Robson, et. al., eds.,

lines in the Old Babylonian Version (written in Akkadian) of the *Epic of Gilgamesh*, the hero, “Gilgamesh, who underwent many hardships. Surpassing all kings, for his stature renowned, Heroic offspring of Uruk, a charging wild bull, He leads the way in the vanguard...Who could be his like for kingly virtue?”²⁸ The link between the infantryman motivated by honor, virtue, and possessing a proactive nature reoccur throughout surviving texts.

Near Eastern warriors’ face battle with courage. From the Akkadian Classical Period Literature (1850-1500 BC) the manuscripts concerning Sargon of Akkad (c. 2334-2279 BC) feature him addressing his troops: “You have given me confidence...you have opened my ears. Courage, discipline, fighting spirit, valor, have been outstanding among you since long ago, Bravery is all yours! Mind the wealth that awaits us, that I told you of...stand tall, make yourselves famous and be proud! Approach and seize.”²⁹ Here we also read another strong motivation for the historic infantryman: booty. In addition to valor, duty, glory, rewards serve as a strong incentive for the infantry, these could take many forms, such as money, land, material treasures, or human captives.

Royal Assyrian inscriptions title the Assyrian army the “Hosts of the God Aššur.” In the annals of Assyrian King Adad-nirâri II (911-891 BC), whilst recounting one of his exploits, he declares, “I marched against Hanigalbat the second time...I fought with him. With the blood of his warriors I dyed the plain. I entered the city of Iaridi. The crops of its land I reaped. I counted the city of Saraku as my own. Grain and straw I heaped up therein.”³⁰ Assyrian literature matches that of all Near Eastern comparisons—infantry and commanders serve for their gods and kings, to win glory, to display their heroism, and for material gain. Centuries later during the Samanid Empire, Abolqasem Ferdowsi (c. AD 940-1020) would pen his epic *Shahnameh*, echoing past Near Eastern as well as ancient Greek infantryman motivations. One excellent instance being the first combat between Rostam and Sohrab, where the former contends, “Evening

The Literature of Ancient Sumer (Oxford: Oxford University Press, 2004), 168-169, 180.

28 *The Epic of Gilgamesh: A Norton Critical Edition*, ed. and trans. Benjamin R. Foster (New York: Norton, 2001), 3-4.

29 “Sargon, King of Battle,” in Benjamin R. Foster, ed., *Before the Muses: An Anthology of Akkadian Literature*, 3rd ed. (Bethesda, MD: CDL Press, 2005), 108.

30 “The Annals,” in Daniel David Luckenbill, ed., *Ancient Records of Assyria and Babylonia*, vol. I (London: Histories and Mysteries of Man, 1989), 111-112.

draws on, but when the sun unsheathes its sword again, on this plain we shall see who will die and who will triumph. Let us return at dawn with swords ready for combat; go now and await God's will!"³¹ Rostam and Sohrab match motivations with Automedon and Hector.

During Egypt's Middle Kingdom (c. 2030-1640 BC), in a stela of the soldier Qedes from Gebelein in Egypt, it notes, "An offering which the king gives (and) Anubis, he who is upon his mountain and in the place of embalming: an offering for the honored Qedes, who says I was a worthy citizen who acted with his arm, the foremost of his whole troop. I acquired oxen and goats. I acquired granaries of Upper Egyptian barley. I acquired title to a [great] field...I surpassed this whole town in swiftness-its Nubians and its Upper Egyptians."³² In a similar vein from a boundary stela of Pharaoh Sesostri III (r. 1878-1840 BC) we read, "I have made my boundary further south than my fathers, One who attacks to conquer, who is swift to succeed, In whose heart a plan does not slumber...Attack is valor, retreat is cowardice, A coward is he who is driven from his border."³³

During Egypt's New Kingdom (c. 1550-1070 BC), the tomb inscription of Ahmose, who served under three pharaohs, observes, "I followed the sovereign on foot when he rode about on his chariot. When the town of Avaris was besieged, I fought bravely on foot in his majesty's presence...When it was reported to the royal herald the gold of valor was given to me...and my captives were given to me as slaves."³⁴ Almost three centuries after Ahmose lived, the Kadesh battle inscriptions of Pharaoh Ramses II the Great (r. 1279-1213 BC), explains, "Said his majesty to his infantry, His captains and his chariotry...A name made through combat is truly good, A man is ever respected for valor."³⁵ Across Egypt's kingdoms and periods there resides consistent will to fight vo-

31 Abolqasem Ferdowsi, *Shahnameh: The Persian Book of Kings*, trans. Dick Davis (New York: Penguin, 2016), 205. See also Azar Nafisi's perceptive forward unpacking the *Shahnameh's* Persianness, ix-xi.

32 "Stela of the soldier Qedes from Gebelein," in Miriam Lichtheim, ed., *Ancient Egyptian Literature* (Oakland: University of California Press, 2019), 127-128.

33 "Boundary Stela of Sesostri III," in Lichtheim, *Ancient Egyptian Literature*, 159-160.

34 "The Autobiography of Ahmose Son of Abana: In His Tomb at El-Kab," in Lichtheim, *Ancient Egyptian Literature*, 321.

35 "The Kadesh Battle Inscriptions of Ramses II," in Lichtheim, *Ancient Egyptian Literature*, 386.

cabulary: honor, valor, conquest. Infantryman fight for the gods (including pharaoh) and to crush the enemy. The Egyptians, like all Near East peoples accepted war's permanence.

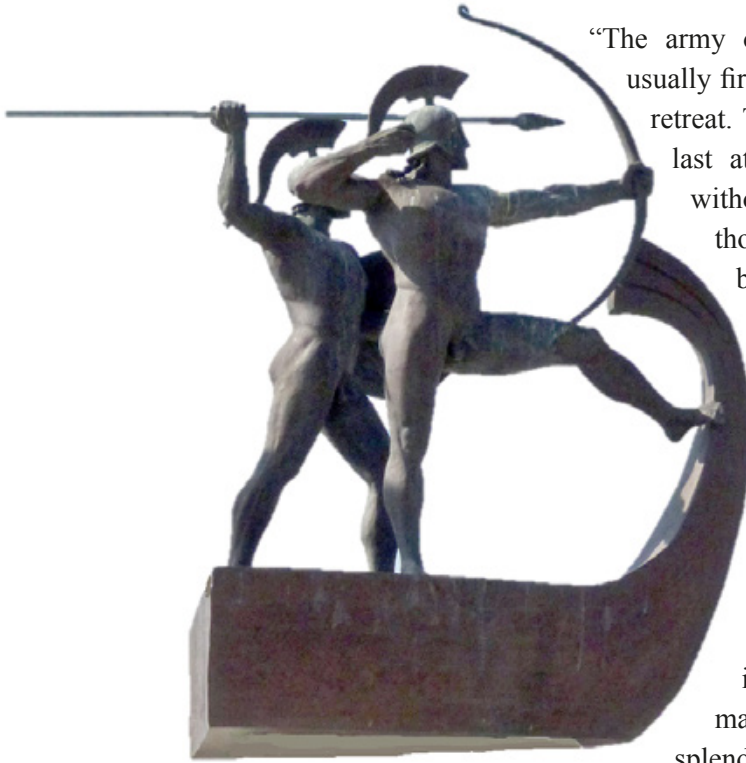
In premodern India we discover parallels to the Near East. The Indian *paiks* (infantry) served for religious duty, caste obligations, village ties, and attachment to the lord created strong primary bonds. Since military service was lucrative and prestigious, an enmeshing of ideological and instrumental factors intertwined. All these motivations generated aggressive cohesiveness among *paiks* but three motivations are paramount: *Kshatriyadharma* (religious obligation of the warrior *Kshatriya* caste to fight and die), social upliftment (low castes became high caste after performing military service), and pecuniary motives by mercenaries.³⁶ Peppered throughout *The Babur Nama*, founder and first emperor of the Mughal Empire, Babur (r. 1526-1530), we see these infantryman motivations on display. One example being a detailed after action report (AAR) called a *Fath-nama* (letter of victory) to Babur from Shaikh Zain, where he writes, "The foot-soldiers, going into a most dangerous place, made their names to be blazoned amongst those of the forest-tigers (i.e. heroes) of valour and the champions in the field of manly deeds."³⁷

The centuries during Europe's medieval and early modern era provide striking parallels to Shaikh Zain's *Fath-nama* as well as the other cultures examined above. Indeed, as the Templars' *Latin Rule of 1129* prologue begins: "Our words are directed primarily at all those who reject the option to follow their own desires and are willing to fight with purity of mind for the highest and true King so that they choose to take up the armour of obedience and a noble life, fulfilling the vow with the utmost devotion and perseverance."³⁸ During the Fifth Crusade (AD 1217-1221), cleric Oliver of Paderborn witnessed the Templars upholding their vow. After a crushing defeat against the Saracens, Oliver asserts,

36 Subject matter expertise provided by Kaushik Roy during correspondence with author. For magnificent detail on the subject see Kaushik Roy, *Warfare in Pre-British India: 1500 BCE to 1740 CE* (London: Routledge, 2015) and Kaushik Roy, *Hinduism and the Ethics of Warfare in South Asia: From Antiquity to the Present* (Cambridge: Cambridge University Press, 2012).

37 Babur, *The Babur Nama*, trans. and ed. Annette Susannah Beveridge (New York: Knopf, 2020), 571.

38 "The First Rule: Latin Rule of 1129," in *The Templars*, trans. and eds. Malcom Barber and Keith Bate (Manchester: Manchester University Press, 2002), 31.



“The army of the Temple, which is usually first to assemble, was last to retreat. Therefore, when it arrived last at our ramparts, it stayed without, so that it might bring those who were before it back within the walls as soon as possible,” and after the Saracens killed the Templars, “Gloom took possession of our men, but not despair. For we know that this affliction was the punishment of sin, and that there was less in the punishment than our fault demanded.”³⁹ Here we absorb a splendid example of the will to

fight’s constant strand across time

and place. It is not nihilism or pessimism but an acceptance of war’s permanence and mankind’s fallen nature.

Whilst reflecting on the Middle Ages, Christopher Allmand observes, “Men had constantly before them the success in battle of Judas Maccabeus, who did not rely on the size of his army to defeat the enemy. What mattered were other factors. One was the quality of leadership. The recurrence of the theme of the Nine Worthies (great military leaders of the past, of whom Maccabeus had been one) serves as a reminder of the importance attached to this factor.”⁴⁰ The *Neun Gute Helden* (Nine Worthies) earliest depiction appears during the fourteenth

39 Oliver of Paderborn, *The Capture of Damietta*, in *Crusade and Christendom: Annotated Documents in Translation from Innocent III to the Fall of Acre, 1187-1291*, eds. Jessalynn Bird, Edward Peters, and James M. Powell (Philadelphia: University of Pennsylvania Press, 2013), 183.

40 Allmand, *The Hundred Years War*, 158.

century adorning Cologne's city hall. The Nine Worthies (all infantryman, with occasional horse for some) were Alexander the Great, Arthur, Charlemagne, David, Godfrey of Bouillon, Hector, Joshua, Judas Maccabeus, and Julius Caesar. These warriors represent a potent combination of the mythical with the actual, the sacred with the secular, but all from a past worthy of emulation.

It is important to note that we find the gamut of will to fight criteria (cause, commander, comrade, compensation) in the Nine Worthies during these centuries. One example being Germany, where the first Nine Worthies statues appeared—here infantry mercenary motivations included money, security, and way of life. During the sixteenth and seventeenth centuries, mercenaries served as the backbone of European armies. These men were professional soldiers recruited to serve for financial reward. A key motivation was money. In addition, service provided security. It was safer to be within the army ranks, receive steady pay, and plunder rather than be plundered. Bolstered by pay and security, after serving for one duration (spring to autumn), many infantrymen would seek recruitment again.⁴¹ We see similar will to fight patterns across the Continent, as subsistence and booty motivated mercenary infantryman during the same era in Hungary as well. Infantry both wanted and needed to fend for their families. And not unlike other European nobles across the centuries, early modern Hungarian nobility served for adventure and glory, for themselves and families.⁴²

Approaching the modern era—late eighteenth and nineteenth centuries—the old will to fight currents continued to flow. One fascinating example being the Austrian Empire during the Napoleonic Wars. Here the three crucial infantryman motivations were kaiser, regiment, and discipline. Being a dynastic institution, an Austrian Army infantryman owed his loyalty to the kaiser (emperor), and by extension, to the House of Habsburg. Although a multinational force, the kaiser and the Imperial House resonated with infantrymen, providing a commitment to duty as subjects. The empire expected each soldier to fight for the honor of his regiment. Each regiment represented a tradition with emblems and history, which instilled pride whilst serving under distinguished officers and enabled rallying after battle. Discipline augmented these factors. Disciplinary

41 Subject matter expertise provided by Klára Andresová during correspondence with author.

42 Subject matter expertise provided by Zoltán Péter Bagi during correspondence with author.

regulations issued in 1769 featured rigid Seven Years War strictures keeping soldiers in methodical formation and prevented desertion. The 1807 regulations were less severe, but older measures endured for restoring order after the early defeats in 1809.⁴³

During the late nineteenth century in Great Britain similar motivations as seen during the Napoleonic Wars remained. Three important factors for late Victorian era infantryman were *esprit de corps*, leading by example, and honor. The *esprit de corps* encapsulated pride and camaraderie amongst soldiers providing unit cohesion, and as in the Austrian example above, their regiment, whose identity, reinforced by tradition and regimental battle history, spurred men to exceed expectations. Reminiscent of the earliest exemplars of Ninurta and Gilgamesh from above, officers led infantry in battle from the vanguard. While caste and class privileges also implied social obligations, leading by example proved inspirational and motivated the infantry. Honor bonded these factors together because infantrymen desired to maintain respectability—for themselves, their comrades, their officers, and their society.⁴⁴

Conclusion

“We used to wonder where war lived, what it was that made it so vile. And now we realize that we know where it lives, that it is inside ourselves...The world makes us feel sick, like this universal wave of cowardice, this mockery of courage, this parody of greatness, and this withering away of honor. It is terrifying to see how easily, in certain people, all dignity collapses. Yet when you think about it, this is quite normal since they only maintain this dignity by constantly striving against their own nature,” asserted Albert Camus on 7 September 1939—six days after Germany invaded Poland.⁴⁵ Camus exposes a

43 Subject matter expertise provided by John H. Gill during correspondence with author. For additional exceptional insight into the subject see John H. Gill, *With Eagles to Glory: Napoleon and His German Allies in the 1809 Campaign*, 3rd ed. (Barnsley: Greenhill Books, 2018) and Gill’s three volume collection: *1809 Thunder on the Danube: Napoleon’s Defeat of the Habsburgs*.

44 Subject matter expertise provided by Marco Mostarda during correspondence with author.

45 Albert Camus, *Notebooks 1935-1942*, trans. Philip Thody (Chicago: Ivan R. Dee, 2010), 141-142.

concrete truth that modernity fails to admit: mankind is fallen, war unavoidable. The year 1945 marked a volte-face. Since the Second World War's end, humanity scrambled to concoct answers to why millions died during the war—the West, in particular, continues searching for explanations rather than acceptance.

Most striking is the speed at which the traditions of C4 (cause, commander, comrade, compensation), unraveled. That is not to say historic will to fight does not still exist, but modernity's worldview and technological determinism continue taking their toll. Nonetheless, the infantryman's historic will to fight remains intertwined with some global cultures—China's 2025 Victory Day Parade and Chinese President Xi Jinping's emphasis on national sacrifice serve as a strong example; meanwhile the West strives to suppress, deny, or snub historic will to fight.

The world, however, will always need infantryman because human nature is static. War existed from mankind's beginning and it will until his end. The farther we get from World War II, the closer we get to World War III...the nation (or alliance) that accepts and embraces the historic truths that motivated infantryman in the past will claim victory. These historic truths are epitomized so well by Great War veteran Coningsby Dawson, and it is appropriate to bookend this survey with his thoughts as he reflected on his time during combat:

That's the way every Tommy and officer comes to think of God—as a Commander-in-Chief whom he has never seen, but whose orders he blindly carries out. The religion of the trenches is not a religion which analyses God with impertinent speculation. It isn't a religion which takes up much of His time. It's a religion which teaches men to carry on stoutly and to say, "I've tried to do my bit as best I know how. I guess God knows it. If I 'go west' to-day, He'll remember that I played the game. So I guess He'll forget about my sins and take me to Himself." That is the simple religion of the trenches as I have learnt it—a religion not without glory; to carry on as bravely as you know how, and to trust God without worrying Him.⁴⁶

46 Coningsby Dawson, *The Glory of the Trenches* (New York: John Lane, 1918), 140-141.

Paiks in India: Circa 2000 BCE – Circa 1520s CE

by KAUSHIK ROY¹

Decisive battles and sieges did not occur in pre-British India. This is the dominant interpretation as regards premodern South Asian military history. The argument runs that the premodern Indian polities were segmentary states. These shadowy states could not build drilled and disciplined armies which were capable of conducting tactical manoeuvres in the battlefields. Warfare was regarded by the Hindus as a sort of continuation of Vedic sacrifices rather than as a matter of state policy. Personal duels among the champions, skirmishes, ambushes, and coercive diplomacy by the indifferently armed militia, runs the argument, decided the fate of campaigns. The outcome was absorption of erstwhile enemies within the expanding ambit of the conqueror. The net result was emergence of loose imperial domains.²

From the other side, a minority view asserts that battles and sieges in premodern India were indeed bloody and messy because of the presence of combat effective armies raised, equipped, and sustained by the centralised bureaucratic states. According to this group of historians, the armies of early India were drilled, disciplined, had uniforms, and were paid regularly in cash and in kind by the state. Strategic planning and use of sophisticated military tactics were prevalent, in accordance with this view, among the ancient Indians.³ However,

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2 Jeffrey Greenhut, 'Armies of India from the Aryans to the Marathas,' *Journal of the United Service Institution of India* Vol. cvi no. 442 1976, pp. 30-41, 84; Daud Ali, 'Violence, Gastronomy and the Meanings of War in Medieval South India,' *Medieval History Journal* Vol. 3 no. 2 2000, pp. 261-89; Stephen Peter Rosen, *Societies and Military Power: India and its Armies*. Oxford University Press, Delhi 1996; Pradeep P. Barua, *The State at War in South Asia*. University of Nebraska Press, Lincoln/London 2005.

3 P.C. Chakravarti, *The Art of War in Ancient India*. 1941, reprint, Low Price Publications, Del-

both these views accept that poor bloody infantry played a marginal role in pre-British South Asian military landscape.

True, in ancient India chariots and elephants constituted the elite components of the army. Then, in medieval India, cavalry became the principal offensive element of the ground force. However, both in the ancient and medieval eras, chariots, elephants, and cavalry could not function without the support of the infantry. This paper highlights the supporting but not decisive role *paiks* (infantry) played from the Indus Valley Civilisation in around circa 2000 BCE till the establishment of the Mughal Empire in 1526 CE. Gunpowder was not introduced in India by the Mughals in the 1520s. The argument that the introduction of ‘Western Way of War’ by the British East India Company (EIC) in the eighteenth century, resulted in the emergence of gunpowder infantry as the crucial element in the military system, is erroneous. I argue that firearms equipped infantry was present in pre-British India. Finally, I also try to answer why infantry did not emerge as the deciding factor in battle?

The present essay covers both ancient India (circa 1200 BCE-600 CE) and early medieval period (700-circa 1500 CE) till the arrival of the Mughals in early sixteenth century. I term the two periods (ancient and early medieval) as early India. This essay is organised along the following themes: recruitment, technology and tactics, combat motivation (including training), and finally deployment (in battles, sieges and in counterinsurgencies [COIN]). Within each theme, the information is organised chronologically as far as possible.

Besides literary sources, archaeological findings, sculptures and paintings have been taken into account. However, the coverage of our sources is uneven. Narrative depiction of past was absent among the Hindus of early India. The ancient Hindus composed abstract philosophical works. Further complicating the issue is the fact that, these literary-philosophical works went through several layers of interpolations across the ages. Thanks to the Greco-Roman scholars and the Muslim chroniclers, we get some narrative depictions of the past. The painters and the sculptors being in the pay of the kings and in accordance with prevalent cultural values highlighted the role of chariots, war elephants and war

hi 1989; Uma Prasad Thapliyal, *Wars and War-Tactics in Ancient India with special references to the Vedas, Epics, Puranas and Niti Works*. Manohar, New Delhi 2021.



Fig. 1. Upper Relief Indian of soldiers with labels on the Tomb of Artaxerxes II Mnemon (r.404-358 BCE) at Persepolis.

Foto Bruce Allardice 2010, CC SA 2.0 (Wikimedia Commons).

horses in their artworks leaving infantry at the margins. Further, India's hot and humid climate resulted in rusting of iron and wooden objects thus posing great limitations on archeological findings. Many coins had been melted away by individuals for their gold and silver content. Worse, ancient bricks and stones had been used by the people and the government in the colonial period for the construction of houses, bridges, and roads.

Composition and Size

The huge size of the armies with infantry predominating characterised the military landscape of early India. This was possible because of the following factors: huge demographic resources of India, prestige associated with military service and brisk economy of the Indian subcontinent. Some examples are necessary. The *gana sanghas* (republics) of Western Punjab and eastern Afghanistan raised big armies when Alexander undertook his march towards India. In 327 BCE, when Alexander was marching towards them, the Assakenoi community inhabiting the region around Dir, Bajaur and Panjkora (present day northwest Pakistan) maintained 30,000 infantry, 2,000 cavalry and 30 elephants.⁴ The Malavas and the Ksudrakas in western Punjab jointly fielded 90,000 infantry and 10,000 cavalry. The Abastanoi (Ambasthas) deployed 60,000 infantry and 6,000 horses against Alexander's general Perdikkas.⁵ Curtius noted that the Nanda Army in 330 BCE under Emperor Mahapadma Nanda comprised 600,000 infantry, 20,000 cavalry, 2,000 four horsed chariots and 3,000 elephants.⁶ Chandragupta Maurya after overthrowing the Nanda Emperor Dhana Nanda, established the Maurya Empire in 323 BCE. Chandragupta, as evident from table 1 maintained his infantry at the same level as his erstwhile opponent, the Nandas. However, Chandragupta probably witnessing the effectiveness of Macedonian cavalry at the Battle of Hydaspes (326 BCE) increased the number of horsemen compared to the Nanda cavalry establishment.⁷ The regional Kalinga Kingdom (Orissa) just before the Maurya Emperor Asoka's invasion in 261 BCE, maintained an army of 60,000 infantry, 1,000 cavalry and 700 elephants.⁸ In first century CE, the Andhras maintained 100,000 infantry, 2,000 cavalry and 1,000 elephants.⁹

4 Aurel Stein, 'Alexander's Campaign on the Indian North-West Frontier: Notes from Explorations between Upper Swat and the Indus,' *Geographical Journal* Vol. 70 no. 5 1927, pp. 423-24.

5 Uma Prasad Thapliyal, *Warfare in Ancient India: Organizational and Operational Dimensions*. Manohar, New Delhi 2010, p. 30.

6 R.K. Mookerji, 'The Foundation of the Mauryan Empire,' in K.A. Nilakanta Sastri (ed.), *A Comprehensive History of India*, vol. 2, *The Mauryas & Satavahanas, 325 BC-AD 300*. Orient Longmans, Bombay 1957, p. 5.

7 R.C. Majumdar, *Ancient India*. 1952, reprint, Motilal Banarasidass, Delhi 1994, pp. 106-07.

8 D.R. Bhandarkar, 'Asoka and his Successors,' in Sastri (ed.), *A Comprehensive History of India*, vol. 2, p. 24.

9 Indra, *Ideologies of War and Peace in Ancient India*. Vishveshvaranand Institute Publications, Hoshiarpur 1957, p. 21.

In 1019 CE, the Chandellas maintained 36,000 cavalry, 145,000 infantry and 300 elephants.¹⁰ Due to the Ghaznavid invasion of Sind and Punjab in the eleventh century CE, the Chandellas attempted to increase the proportion of cavalry in their force structure. In 1260 CE, the Delhi Sultanate maintained an army of 50,000 cavalry and 200,000 infantry.¹¹ In 1354 CE, Ilyas Shah, the ruler of Bengal Sultanate marched with 10,000 cavalry, 200,000 infantry and 50 elephants against Firuz Shah, the Sultan of Delhi.¹²

Table 1: Army Size

Date	Army	Infantry	Cavalry	Ratio of Infantry and Cavalry
330 BCE	Nanda Army	600,000	20,000	30:1
327 BCE	Assakenoi	30,000	2,000	15:1
327 BCE	Malavas and Ksudrakas	90,000	10,000	9:1
326 BCE	Ambasthas	60,000	6,000	10:1
323 BCE	Maurya Army	600,000	30,000	20:1
261 BCE	Kalinga Army	60,000	1,000	60:1
100 CE	Andhra Army	100,000	2,000	50:1
1019 CE	Chandella Army	145,000	36,000	145:36
1260 CE	Delhi Sultanate Army	200,000	50,000	4:1
1354 CE	Ilyas Shahi Bengal Sultanate Army	200,000	10,000	20:1

Note: The sources for these figures have been given in the main text, hence not repeated here.

From the beginning of history till today, Asia has been the most populous continent in the world. Within Asia, China and India has housed the largest number of people. In India, the Ganga Valley and the Tapti Valley till the pre-

10 Gurcharn Singh Sandhu, *A Military History of Ancient India*. Vision Books, New Delhi 2000, p. 485.

11 Peter Jackson, *The Delhi Sultanate: A Political and Military History*. Cambridge University Press, Cambridge 1999, p. 239.

12 R.C. Jauhri, *Firoz Tughluq*. 1965, reprint, ABC Publications, Jalandhar 1990, p. 50.

modern era had the highest concentration of population. In 1000 BCE, the Indian subcontinent had about 40 million people. By 200 CE, the population rose to 45 million. The Nanda Empire comprised the Ganga Valley and the Maurya Empire included both the Ganga Valley and the Tapti Valley. In around 700 CE, India's population was 100 million. During early medieval era, the population around Lower Gangetic Valley, Godavari and Krishna River Valleys rose appreciably. While the Lower Gangetic Valley was the base of the Ilyas Shahi Bengal Sultanate, Godavari Valley was the base of the Andhra Kingdom. Around 1500 CE, India's population rose to 150 million.¹³

The Maurya Empire imported horses from Afghanistan and Ilyas Shahi Sultanate imported horses from Tibet. However, south and central India were not horse breeding regions. This explains the disparity in the cavalry branch of the Andhra and Kalinga armies. The Muslim rulers tried to increase the number of cavalry for two reasons. Their core strike force was the horse archers. Second, they had better access to war horses from Central Asia and Arabia.

Money was required for enlisting and maintaining military volunteers. Land tax on India's bumper crops enabled the Indian rulers to raise and maintain big armies. Strabo emphasised the fertility of India's soil and sowing of crops both during the winter and the summer. Further, heavy monsoon rainfall and hot summer, he commented, produced bumper crops.¹⁴ Extensive lucrative overseas trade with the Persian Gulf sustained the military machines of Hindu kingdoms of western India. Till the arrival of the Arabs, the balance of foreign trade (both overland and overseas) was in favour of India. There was a huge demand in West Asia for spices and textile goods from India. In fact, there was a significant outflow of gold from the Roman Empire to ancient India. For the early medieval India, the Muslim sources note that India had become a sink for gold from the Byzantine Empire and silver from Persia.¹⁵

13 Sumit Guha, *Health and Population in South Asia: From Earliest Times to the Present*. 2001, reprint, Permanent Black, Ranikhet 2010, pp. 1-38.

14 Geography of Strabo, in *The Classical Accounts of India*, tr. and ed. with notes and comments by R.C. Majumdar. 1960, reprint, Firma KLM, Calcutta 1981, p. 252.

15 Andre Wink, *Al-Hind, The Making of the Indo-Islamic World*, vol. 1, *Early Medieval India and the Expansion of Islam, 7th-11th Centuries*. 1996, reprint, Manohar, New Delhi 2024, pp. 25-45; vol. 2, *The Slave Kings and the Islamic Conquest 11th-13th Centuries*. 1997, reprint, Oxford University, New Delhi 2001, p. 17.

In accordance with the *shastras*, the Hindu society was divided into four *varnas* (ranks; commonly known as caste system). The top *varna* was the Brahmins who were supposed to engage in scholarly studies and in performing religious rituals. The second important caste was the Kshatriyas. The landed elite among them in early medieval India were known as *thakurs* and in medieval period as Rajputs (*rajaputras*; literal meaning sons of king). The Kshatriyas were the martial caste. Their duty was ruling and fighting. They comprised the core of the Hindu armies of early India. The third caste in ranking was the *Vaishyas* who were engaged in trade and commerce. They were businessmen per se and were traders, shopkeepers, moneychangers, bankers, etc. The fourth caste and the lowest one was the Shudras who were tillers of land. They were peasants and farmers. The aboriginal tribes were known as untouchables and were placed outside the *varna* order. They engaged in pastoralism and also in various craft works like tanning, etc. However, the *varna* order was flexible.¹⁶

The Kautilya *Arthashastra* (which refers to the period between 300 BCE to 300 CE) challenges the *dharmashastras* and advises the *vijigishu* (an aggressive ruler with hegemonic ambition for establishing a pan-Indian empire; probably he was referring to Chandragupta Maurya) about recruitment. Kautilya notes that for raising a vast army which is necessary for conquering and defending the subcontinent, military labourers from all the four castes should be inducted.¹⁷ His advice seems to have been practiced by the dynamic Hindu rulers of early India.

Despite the injunctions of the *varna* system, Brahmins joined the army. In fact, the Brahmins were overrepresented in the higher ranks of the army probably because of their intellectual superiority. For instance, Pushyamitra Sunga, a Brahmin, was a Maurya general who established the Sunga Dynasty (185-73 BCE) by overthrowing the last Maurya emperor. Then the Chandellas, a Rajput clan, maintained a threefold army comprising of cavalry, elephants, and infantry. The Chandellas in central India between the ninth and eleventh century had

16 V.M. Apte, 'Social and Economic Conditions: The Age of Rik Samhita,' in R.C. Majumdar (General Editor), A.D. Pusalker and A.K. Majumdar (Assistant Editors), *The History and Culture of the Indian People*, vol. 1, *The Vedic Age*. 1951, reprint, Bharatiya Vidya Bhavan, Mumbai 2021, pp. 389-91.

17 *The Kautilya Arthashastra*, Part 3, ed. and tr. by R.P. Kangle. 1965, reprint, Motilal Banarasi-dass, Delhi 2000, p. 245.

Brahmin generals. One of them was named Gopala.¹⁸ Many Brahmins of north India took to agriculture and joined the army as infantry. They lost their status as Brahmins and became Bhumihars (below Brahmins but above Rajputs). Again, many low castes by dint of their military service acquired honour and money. By means of *shuddi* ceremony, they acquired the status of the Kshatriyas. One example was the Morya caste of north India. Chandragupta Morya's successful martial pursuit resulted in the establishment of the Maurya Empire. This uplifted the Morya caste from low caste to Kshatriya status. In addition, many foreign conquerors (like the Sakas and the Kushanas) who settled in Rajputana (Rajasthan) and intermarried with local women acquired Kshatriya status.¹⁹ However, Hinduism failed to absorb the monotheistic Islam which remained an alien element within its body politic.

After the death of Muhammad Ghori in 1206, his general in India named Qutub-ud-din Aibak established the Delhi Sultanate. Till circa 1400, the Turks from Central Asia and the Caucasus region who migrated to India dominated the top military ranks and the prestigious cavalry branch.²⁰ The last two dynasties of the Delhi Sultanate (Sayyids and the Lodhis) during the fifteenth century depended mostly on the Afghans. Some of the Rajput chieftains who accepted the overlordship of the sultans were given vassal status and they were allowed to join the army of the Delhi Sultanate with their own contingents. An example is Maldeo of Chitor (Chittorgarh) who joined the army of Sultan Alauddin Khalji (r. 1296-1316) with 5,000 cavalry and 10,000 infantry.²¹ A Rajput chieftain's military contingent comprised of his retainers and extended family members and personnel from his own clan. In accordance with the Rajputs' cultural ethos, their preferred branch was cavalry. Poorer Rajputs and the low castes joined the infantry branch. In the Rajput kingdoms of west and central India (like the

18 Bimal Kanti Majumdar, *The Military System of Ancient India*. Firma KLM, Calcutta 1960, pp. 142-46.

19 James Tod, *Annals and Antiquities of Rajasthan*, vol. 2. 1832, reprint, Rupa & Co., New Delhi 2002, p. 2.

20 Sunil Kumar, *The Emergence of the Delhi Sultanate: 1192-1286*. 2007, reprint, Permanent Black, Ranikhet 2015.

21 Banarsi Prasad Saksena, 'Alauddin Khalji: Measures for preventing Rebellions, Land Revenue Reforms, Chitor, Targhi (1301-03),' in Mohammad Habib and K.A. Nizami (eds.), *A Comprehensive History of India*, vol. 5, Part 1, *The Delhi Sultanat, AD 1206-1526*. 1970, reprint, People's Publishing House, New Delhi 1996, p. 371.

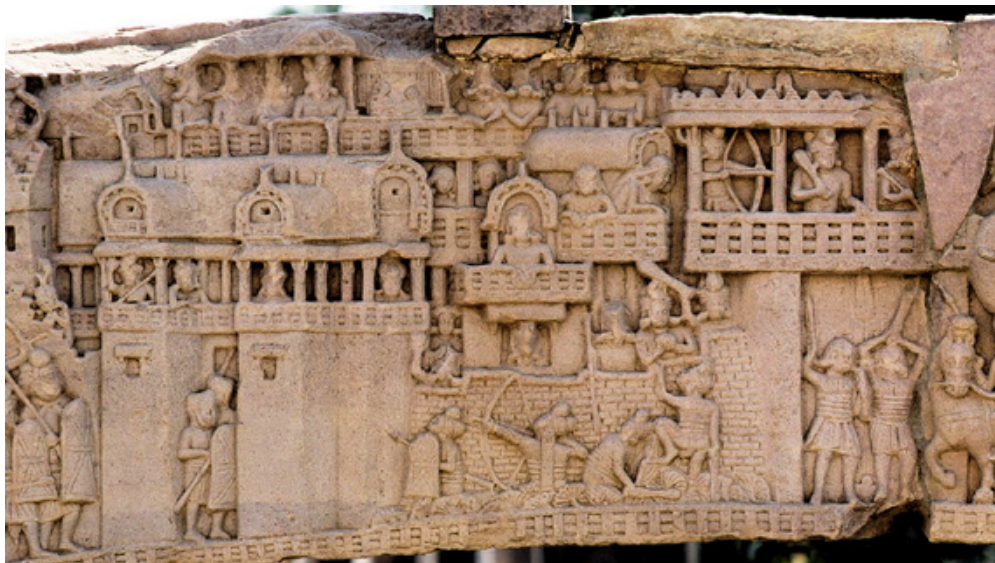


Fig. 2. Siege of the City of Kushinagar during the War of the Relics of the Buddha in the 5th century BCE according to a 1st century BCE frieze in Sanchi Stupa 1 Southern Gate, Foto Asitjain 2018 (detail) CC SA 3.0 (Wikimedia Commons)

Pratiharas of eight century), while the Rajputs manned the cavalry branch, the infantry was filled with tribes (*nishadas*; outcastes in the traditional *varna* hierarchy) like the Guhilas, etc. Many Indians who converted to Islam acquired high posts in the sultanate's army. One example was Alauddin Khalji's general Malik Kafur who conquered south India for his master.²² The Delhi Sultanate's infantry was known as *piyada*hs. Many of them were Afghans from Roh (a district in the eastern part of Afghanistan) who settled in Katehar region. After ousting the Rajput inhabitants, they renamed it Rohilkhand. Besides these Afghans (subsequently known as Rohillas), many low caste Hindus were also inducted in the infantry branch.

²² Banarsi Prasad Saksena, 'Alauddin Khalji: The Last Mongol Invasions,' in Habib and Nizami (eds.), *A Comprehensive History of India*, vol. 5, Part 1, pp. 392-93 (392-99); Krishna Kanti Gopal, 'Assignment to Officers and Royal Kinsmen in Early Medieval India c. AD 700-1200,' in Bhairabi Prasad Sahu (ed.), *Land System and Rural Society in Early India*. 1997, reprint, Manohar, New Delhi 2022, p. 127.

Arms and Armour

The defensive force of the Indus Valley Civilisation (3000-1200 BCE) comprised mostly of infantry centred around massive forts. Use of stone as a weapon for the infantry was on decline. The infantry used bronze and copper weapons. Bronze was an alloy of copper and tin. The Indus Valley people had long distance trade networks and imported tin from Afghanistan and Persia.²³ Bows and slings were used as long distance weapon, while spears, swords, daggers, maces, and axes were used for close quarter combat. The archers used bronze and copper arrows with long narrow barbs and without tang. The slingers used clay shots and the clay pellets weighed between six to 12 ounces. Spears were leaf shaped. The swords and daggers were double edged and heavy. Some of the daggers had mid ribs. The Indus people also used copper axes and maces whose heads were made of stone.²⁴ Most of the archaeologists agree that the Indus people did not know the use of war horses. War chariots along with use of iron tipped arrows by the Indo-Europeans (Aryans of ancient Indian literature) accelerated the collapse of the Indus Valley Civilisation.

The Indo-European people (now known as Proto Indo-European/PIE) entered India around 1500 BCE through Punjab (*Brahmavarta*) and spread into north India (*Aryavarta*) in around 1200 BCE. This period is known as the Vedic Age. The PIE speakers were organised in various clans. They fought among themselves and also against the original inhabitants of India who are described in the Vedic texts as dark skinned *dasas* and *dasyus*. Two wheeled war chariots drawn by horses and *patti* (infantry) constituted the PIE ground force. Both the charioteers and the foot slogging infantry used *srnga* (horned) bows. In addition, for longer range, the infantry used the simple bamboo bow. The staff was bent into a curved shape and the two ends were tied with a bow string made of cowhide. The length of the bow was three feet. The arrowheads were of copper, bronze and iron and the body of the arrow was made with reed or thin twig.²⁵ The

23 R.S. Sharma, 'Material Background of Vedic Warfare,' *Journal of the Economic and Social History of the Orient* Vol. 9 no. 3 1966, p. 305.

24 G.N. Pant, 'The Saga of Indian Arms,' *Journal of Indian History*, Golden Jubilee Issue 1973, pp. 246-47.

25 Govind Tryambak Date, *The Art of War in Ancient India*. 1929, reprint, Life Span Publishers and Distributors, New Delhi 2020, p. 12.

Rig Veda composed around 1200 BCE highlights bows as the principal weapon system of the PIE speakers. One of the hymns of the *Rig Veda* says: ‘I stretch the bow for Rudra so that his arrow will strike down the hater of prayer.’²⁶

Gradually, the bamboo bow became heavier and its length and range increased. The principal weapon of the infantry during Alexander’s invasion of India was the heavy bamboo bow which was a straight bow. It was about five feet in length. While drawing it, the soldier held one tip in the ground with his left foot and the middle of the bow with his left hand and then drew the string with his right hand up to his ear. The iron tipped arrow could penetrate cuirass and shield. G.N. Pant calculates that the range of an iron tipped arrow launched by such a bow was 90 yards.²⁷ However, the rain on the night before the battle made the ground slippery. Hence, the Indian archers could not get a good grip on their bows. Hence, climate reduced the effectiveness of the Indian bowmen during the decisive Battle of Jhelum (Hydaspes, 326 BCE).²⁸

The Sanchi Bas-Reliefs throw light on the nature of post Mauryan warfare. Several sculptures depict scenes of sieges of fortified cities. The infantry from the battlements, city gates and upper stories of the buildings is shown as fighting with short and broad swords, darts, and bows. The archers had quivers filled with arrows attached to their bodies. The swords required the use of both hands. The bows were shorter (about four feet in length compared to more than five feet used in Alexander’s time). Some of the bows were made of straight pieces of bamboo (simple bow) while others were double curve with a straight hand piece (buffalo’s horns) in the middle. The double curved horned bows were made in imitation of the bows used by the Scythians, who invaded India during circa 100 BCE. The infantry was covered with four feet long narrow shields which rounded at the top.²⁹

The invasion of the Parthians and the Scythians during the second and first

26 Quoted from *The Rig Veda: An Anthology*, selected, tr. and annotated by Wendy Doniger O’Flaherty. 1981, reprint, Penguin, New Delhi 1994, p. 63.

27 G.N. Pant, *Indian Archery*. 1978, reprint, Agam Kala Prakashan, Delhi 1993, p. 183.

28 P.K. Gode, ‘The Mounted Bowman on Indian Battlefields: From the Invasion of Alexander (BC 326) to the Battle of Panipat (AD 1761),’ *Bulletin of the Deccan College Research Institute* Vol. 8 nos. 1-2 1947, pp. 34-42.

29 Alexander Cunningham, *The Bhilsa Topes or Buddhist Monuments of Central India*. 1854, reprint, Gyan Publishing House, New Delhi 2022, pp. 215-19.

centuries BCE resulted in the introduction of complex arrowheads. They introduced iron arrowheads of various shapes: rhombic cross section, square cross section, rectangular cross section with conical blade, lozenge cross section, etc. As the invaders moved from Northwest India towards the Gangetic Valley, the use of these types of arrowheads also spread with them. Archaeological findings tell us that the Indian archers along with these new iron arrowheads continued to use their traditional bone arrowheads (made from the horns of deer), and the tip of some of them were poisoned for further effectiveness.³⁰ From second century CE onwards, due to the influence of the Kushanas, the leaf shaped arrow became the standard.³¹

As evident from the stone sculptures, by seventh century CE, the Indian infantry for close quarter combat was using trident shaped spear (shaped in the style of divine weapon of Hindu God Shiva), circular shield made of wood and a *khadga* (curved sword with sharp edge on one side).³² The blade of the *khadga* was broad was used for chopping unlike the narrow blade of the *tulwar* of the Muslim soldiers which was used for slashing.

The Rajputs during the medieval era used *dhals* (round shields made from hides of animals) and swords. There were two types of swords: *tarvar* and *khando*. The *tarvar* (equivalent to the Islamic *tulwar*) was a sabre, a cutting weapon with a one edged blade which was curved and pointed at the end. The *khando* was a double edged weapon with a heavy straight blade that gradually tapered to a point. The body armour was *jinsal* which was a long cloth made of thick cotton padding. The Rajputs did not wear silk shirts underneath their body armour like the Central Asian steppe nomads. The silk shirt enabled easier extraction of the arrowhead from a wound thus lessening the chance of infection.³³ By twelfth century, as a result of the successful Islamic invasions of India, the fashion was

30 G.R. Sharma, *The Excavations at Kausambi (1957-59): The Defence and the Syenaciti of the Purusamedha*. University of Allahabad, Allahabad 1960, pp. 1-16, 45-56.

31 S.P. Gupta, 'Arrowheads—Its Technology and History,' *Journal of the Bihar Research Society* Vol. xlvii 1961, p. 138.

32 S.M. Sethi, *A Catalogue of Stone Sculptures in the Museums of Himachal Pradesh*. Himachal State Museum Shimla, Shimla 2002, p. 29.

33 Norman P. Ziegler, 'Evolution of the Rathor State of Marwar: Horses, Structural Change and Warfare,' in Karine Schomer, John L. Erdman, Deryck O. Lodrick and Lloyd I. Rudolph (eds.), *The Idea of Rajasthan: Explorations in Regional Identity*, vol. 2, *Institutions*. Manohar in association with American Institute for Indian Studies, New Delhi 1994, pp. 202-03.

that infantry should be equipped with an Indian *asi* (long sword; India produced the best wootz steel which was exported to Persia and Arabia), a Tartar lance and Persian bows (light and short horned composite bows and crossbows made with wood and iron which replaced the traditional big Indian bamboo simple bow).³⁴

The argument that Zahiruddin Babur (b. 1483-d. 1530), a Turco-Mongol warlord from Ferghana and the founder of the Mughal Empire in 1526 introduced gunpowder weapons for the first time in India is questionable. It is wrong to assume that the French *Compagnies des Indes* and the EIC in the first half of the eighteenth century introduced gunpowder infantry in India. The ancient Indians possessed knowledge of saltpetre which they called *agnichurna* (snow white powder). Initially, saltpetre was used for making *atishbazi* (fireworks) and various pyrotechnical devices. The ancient Indian works speak of fire arrows. The arrow was made of *naracha* (iron) with a coating of lead and tin and at its tip combustible materials were placed which was ignited before the arrow being fired. For discharging such fire arrows, both hand bows and big machines (*Mahayantra Jamadagna*; a sort of field artillery) were used. *Vasistha Dhanurveda*, a work composed around twelfth century CE speaks of *nalika* (handguns). *Nalika* which was a long narrow tube was used for throwing both iron arrows as well as *vatis* (bullets). It was a sort of handgun. *Sataghni* (literal meaning killer of thousand) was a cannon.³⁵

Chemical warfare was practiced by the Indian infantry. While launching an assault or for conducting a tactical withdrawal, the infantry used pots filled with combustible materials (resins, herbs, chemicals like mercury, etc.) which caused a smoke screen for confusing and disorienting the enemy.³⁶ The early Indians used *bans* (rockets). It threw a projectile with combustible materials or an arrow from a bamboo (late iron) tube which was placed on the ground with a forked rest and operated by two persons. Its range was 1,000 yards (greater than seventeenth century musket). Babur encountered this weapon as the Battle of Ghaghra (1529). Mysore sultanate continued to use *bans* in the late eighteenth

34 G.N. Pant, *Mughal Weapons in the Babur-Nama*. Delhi, Agam Kala Prakashan 1989, pp. 21-2.

35 Jogesh Chandra Ray, 'Firearms in Ancient India: II,' 'Fire-Arms in Ancient India: III,' *Indian Historical Quarterly* Vol. 8, no. 3 1932, pp. 268 (267-71), 583-88.

36 Gustav Oppert, *On the Weapons, Army Organisation, and Political Maxims of the Ancient Hindus, with Special Reference to Gunpowder and Firearms*. 1880, reprint, Gyan Publishing House, New Delhi 2023, p. 32.

century. The EIC adopted this weapon which evolved into Congreve Rocket in the first half of the nineteenth century.³⁷

Then again, the dominant view that premodern Indian polities were all 'shadow' states or theatre states really does not hold water. Arrian in his *Indica* describing the Indian polities during the time of Alexander's invasion of India notes that the artificers who manufactured weapons for the soldiers were paid by the state.³⁸ An incipient bureaucracy was evolving with time in ancient India. Kautilya *Arthashastra* (300 BCE-300 CE) mentions an officer named *samaharta*. He was in charge of royal expenditure on warehouses, armouries, and factories.³⁹ The Gupta Empire in the fifth century CE introduced a new officer named *ranabhandagaradhiparika*. He was in charge of military finance which was distinct from expense of the civilian administration.⁴⁰ Then for instance, the Delhi Sultanate (1206-1526) established *karkhanas* (large workshops) where military equipment was manufactured under royal supervision.⁴¹

Discipline, Training and Combat Motivation

The 'will to war' is the product of discipline and training. It is historically wrong to accept that early Indian armies were untrained. Initially, the PIE infantry was organised in tribal lines. They fought under their traditional tribal leaders and carried tribal banners and insignias. The members of the tribe knew each other. There are many mentions in the ancient texts of families within a clan which produced warriors for three generations. A tribal warband was subdivided into tactical units each of which comprised 37 warriors. By 700 BCE as the PIE speakers transitioned from semi-pastoral economy to settled agriculture, the infantry was raised from the peasants in the villages with the aid of the *gramani*

37 Iqtidar Alam Khan, 'Origin and Development of Gunpowder Technology in India: AD 1250-1500,' *Indian Historical Review* Vol. 4 no 1 1977, pp. 20-9.

38 *Indica* by Arrian in *The Classical Accounts of India*, by Majumdar, p. 225.

39 K.A.N. Sastri and P.C. Bagchi, 'Government. Society and Art of the Mauryan Empire,' in Sastri (ed.), *A Comprehensive History of India*, vol. 2, p. 58.

40 V.R. Ramachandra Dikshitar, *War in Ancient India*. 1944, reprint, Motilal Banarasidass, Delhi 1987, p. 210.

41 Athar Ali, 'Military Technology of the Delhi Sultanate (13th-14th C.),' *Proceedings of the Indian History Congress*, Gorakhpur Session. Indian History Congress, Delhi 1989-1990, p. 175 (166-82).

(village headmen) and *vrajapati*. The peasant infantry was led by the *senani* (commanders) appointed by the *raja* (monarch).⁴²

Ancient India had institutions for training the young Kshatriya boys. The *gurukulas* (schools) generally located outside the cities were under the Brahmin *acharyas* (teachers; intellectuals). A young boy received maximum 12 years training. There were *asramas* where both theoretical training (knowledge of the various *shastras*) and practical training (archery, physical exercises, swordplay, etc.) were given to the would be warriors. The students had to forego all luxuries and lived a spartan life (like a *brahmacharya*) in these institutions.⁴³

The *acharyas* used training manuals for imparting training to their students. One such training manual which has survived is *Vasistha's Dhanurveda Samhita*. The *Shiva Dhanurveda* seems to have been lost to history. The *Dhanurveda Samhita* notes the concentration of mind and body for accurate shooting of the arrows. One stanza stresses: 'Successful aiming occurs if the archer ... standing in *Visakha* position, holds the bowstring in *simhakarna* way and draws the bow in *samsadhana* method. The bowstring should be drawn in *Kaisika* position. The upper and lower part of the body be kept in a straight line, also both shoulders should be at par.... The eyes should not move rather these should be fixed on the target.... The archer should totally fix his mind on the object.'⁴⁴

Chandragupta Maurya (r. 323-298 BCE) was able to conquer bulk of the Indian subcontinent and then defeated Seleucus Nicator at the Battle of Indus (304 BCE) due to his highly trained army. The emperor used to review the Maurya troops regularly.⁴⁵ Diodorus Siculus who wrote in the first century BCE noted that the soldiers in India during peacetime were trained for war and the permanent standing army was maintained at the king's expense.⁴⁶ Kautilya *Arthasha-*

42 Sarva Daman Singh, *Ancient Indian Warfare with special reference to the Vedic Period*. 1965, reprint, Motilal Banarasidass, Delhi 1989, pp. 9-11.

43 Madhumita Chatterji, *The Kshatriyas in Ancient India*. Munshiram Manoharlal Publishers, New Delhi 2007, p. 58.

44 Quoted from *Vasistha's Dhanurveda Samhita*, Sanskrit text with English Translation, tr. Purnima Ray. J.P. Publishing House, Delhi 2014, p. 34.

45 F.W. Thomas, 'Political and Social Organisation of the Maurya Empire,' in E.J. Rapson (ed.), *The Cambridge History of India*, vol. 1, *Ancient India*. 1922, reprint, Gyan Publishing House, New Delhi 2024, p. 493.

46 Diodorus Siculus, in *The Classical Accounts of India*, by Majumdar, pp. 237-38.

tra notes the existence of superintendent of infantry. This officer was in charge of disciplining and training the foot soldiers. About his duties, Kautilya notes: 'He shall also know the fitness or unfitness of troops on emergent occasions.... Bring ever mindful of the discipline which his army has to maintain, not merely in camping and marching but in the thick of battle, he shall designate the *vyuha* (battle formation) by means of trumpets... banners... flags.'⁴⁷

The armies of early India were not disorganised armed mob. In fact, in the battlefield, drilled and disciplined armies were deployed in various battle formations. The ancient Indian military works conceptualised various *vyuhas* (battle formations). Bhishma in the *Mahabharata* (700-500 BCE) used the *Sarvato-mukha Vyuha*. This deployment like a convex mirror bulged outward, somewhat like Hannibal's infantry at the beginning of the Battle of Cannae (2 August 216 BCE). When meeting a numerically superior enemy, the general used *Vajra Vyuha* which was shaped like a needle. In this *vyuha*, the soldiers deployed in column formation to break the linear formation of the enemy.⁴⁸ To counter the enemy's *vyuha* in the battlefield, the army of a ruler often changed its original battle formation and this process is known as *prati-vyuha*.⁴⁹ Only a trained army could change its tactical deployment in the face of the enemy.

Uniform ensured homogeneity, and was also an aspect of discipline which raised combat effectiveness of the troops. The Indian soldiers were not indifferently dressed. The Gupta Empire (fourth and fifth centuries CE) imitating the Kushanas (first and second centuries CE) introduced riding boots and trousers for the cavaliers. However, the infantry wore cotton *dhotis* (loose clothes wrapped around the waist and reached up to the ankles) and sandals made of wood with leather straps (somewhat similar to the Roman sandals).⁵⁰

Religion played a crucial role in motivating the soldiers to fight and die. The sovereigns deliberately used religion for raising the troops' combat motivation. For instance, Paurava's (Porus) soldiers while marching against Alexander's

47 Quoted from Kautilya's *Arthashastra*, tr. by R. Shamasastri. Wesleyan Mission Press, Mysore 1929, pp. 156-57.

48 Thapliyal, *Wars and War-Tactics in Ancient India*, pp. 154-55.

49 Upinder Singh, *Political Violence in Ancient India*. Harvard University Press, Cambridge MA 2017, p. 477.

50 Uma Prasad Thapliyal, *Military Costume and Accoutrements in Ancient India*. Manohar, New Delhi 2012, pp. 138-39.

force carried emblems of Hindu gods like Vishnu and Ganesh with them in the battlefield. In addition, drummers and the trumpeters played martial music to raise the morale of the soldiers.⁵¹ The emblems depicting features of the gods functioned as regimental standards. Q. Curtius Rufus tells us: ‘To desert the bearers of this image was reckoned a disgraceful military offence, and they had even ordained death as a penalty for those who failed to bring it back from the battlefield, for the dread which the Indians had conceived for the god... to a feeling of religious awe and veneration.’⁵² In fact, many Brahmins flocked to join the army of Yasodharman (r. 515-545 CE) who was fighting the Huna invaders in Punjab and central India. The Brahmins were motivated to join the army for saving their *dharma* which was being disrupted by the Huns.⁵³

The Rajputs were fond of arms, horses, and hunting. Fighting was the sole reason for their existence and they did not have much respect for scholarship. The bards sang the praises of their clans which further raised their fighting spirit. When not fighting external enemies, the Rajputs fought among themselves. The Rajput culture was never to surrender. In fact, among the Kshatriyas (from whom the Rajputs descended), the credo was never to turn back against an enemy force. The worst shame for a Kshatriya was to die in bed peacefully at old age. When death was imminent, they drank wine, put saffron coloured (holy colour of Hinduism) clothes with *tika* (red dot smeared with ashes of religious rituals) on their forehead and led a suicide charge (somewhat like the later day Japanese *Banzai* charge).⁵⁴ In 1191 CE, when Muhammad Ghori invaded India, 150 Rajput chiefs rallied under Prithviraj Chauhan, the ruler of Delhi. The allied Rajput chiefs took an oath with the water of Ganga River (sacred to the Hindus) that they would either be victorious or die in the battlefield and become martyrs.⁵⁵

51 Buddha Prakash, *History of Poros*. Publication Bureau Punjabi University, Patiala 1986, p. 57.

52 Quoted from Curtius Rufus Quintus, in *The Classical Accounts of India*, by Majumdar, pp. 119-20.

53 Buddha Prakash, ‘Last Days of the Gupta Empire,’ *Annals of the Bhandarkar Oriental Research Institute* Vol. 27 no. ½ 1946, pp. 138-39 (124-41).

54 James Tod, *Annals and Antiquities of Rajasthan*, vol. 1. 1829, reprint, Rupa, New Delhi 2002, pp. 122-23, 205-06.

55 V.R. Ramachandra Dikshitar, ‘Indian Martial Tradition,’ *Journal of the Ganganath Jha Research Institute* Vol. 3, Parts 3-4 1946, p. 273 (263-77).

Presence of a welfare system along with food and drinks also encouraged the soldiers to remain loyal to his sovereign and fight well for him. The *Samaveda Samhita* (1200 BCE) advised that soldiers should be given a dose of the intoxicating drink *soma* and their armour before being sent to war.⁵⁶ The *Mahabharata* (longest epic poem in the world) composed around 700 CE notes that for ensuring loyalty and bravery of the soldiers they should be paid wages and rations at the expense of the king regularly.⁵⁷ Sultan Ghiyasuddin Balban (r. 1266-1287 CE) introduced a pension system for old and infirm soldiers. They were paid in cash on a monthly basis for their sustenance.⁵⁸

Combat

Infantry participated in three types of combat: battles, sieges and in COIN (suppressing armed rebellions by the populace). The most famous battle of ancient India was the Battle of Jhelum (Hydaspes, 326 BCE). At the Battle of Jhelum, Paurava (Porus) deployed 30,000 infantry, 300 elephants and 6,000 cavalry. The elephants constituted the first line of defence. The infantry formed the second line of defence and the cavalry was deployed at both the flanks. The ferocious attack by Alexander's Companion Cavalry and the Dahae horse archers of the Macedonian Army resulted in the retreat of Indian cavalry. Then Alexander's light infantry attacked the elephants. To protect these beasts, Paurava's infantry moved in between the elephants. Due to muddy nature of the ground, the Indian bowmen failed to arrest the advance of Alexander's light infantry. In the end, the Macedonian heavy infantry organised in phalanx smashed the Indian infantry wearing light cotton armour and deployed in loose skirmishing order. At the end of the battle, Paurava suffered 20,000 infantry and 3,000 cavalrymen killed in action.⁵⁹

56 *Samaveda Samhita*, ed. and tr. Paritosh Thakur. 1975, reprint, Kolkata: Haraf Prakashani, 2001, p. 183 (in Bengali).

57 Chakravarti, *The Art of War in Ancient India*, p. 87.

58 K.A. Nizami, 'Sultan Balban and Kaiqubad,' in Habib and Nizami (eds.), *A Comprehensive History of India*, vol. 5, Part 1, p. 289 (277-310).

59 Arrian, *The Anabasis of Alexander*, in *The Classical Accounts of India*, by Majumdar, pp. 34-41.

The Islamic invasions of India started from late seventh century onwards. The Ghaznavids under their leader Subuktagin from their base in northern Afghanistan led armies against northwest India. Raja Jaipal of the Hindu Shahi Dynasty ruling over Punjab and Eastern Afghanistan was their first target. In 988 CE, in a running battle lasting for several days known as the First Battle of Laghman, the Ghaznavid horse archers with their long distance archery made mincemeat of Jaipal's Hindu infantry and cavalry armed with spears and swords. Spears and swords designed for close quarter combat proved useless. The Hindu rulers actually had no counter to long distance mounted archery of Islam. This factor to a great extent explains the intrusion of Islam in medieval South Asia. In addition, the cold climate of mountainous Afghanistan proved debilitating to Jaipal's Hindu infantry recruited mostly from the warm plains of Punjab.⁶⁰ Subuktagin's successor Mahmud of Ghazni, the 'scourge of India' at the Battle of Peshawar (August 1001 CE) confronted Jaipal again. Jaipal from his capital Lahore marched with 12,000 cavalry, 30,000 infantry and 300 elephants against Mahmud who had advanced from Ghazni with 10,000 cavalry (mostly horse archers). In the ensuing battle, Jaipal was defeated and his army suffered 5,000 killed.⁶¹

In the Khalji Army (1290-1320), the mercenary Hindu *paiks* with swords were used for three purposes: to besiege and assault forts, to support the armoured elephants while assaulting enemy horses and finally to guard the camps. The Hindu *paiks* were used by the Khalji sultans against the Rajput kingdoms of Rajputana, the Hindu kingdoms of south India and also for fighting the Mongols.⁶² During 1297, the Mongols under Kadar attacked India. From Suleiman Mountains, the Mongols advanced towards the land of five rivers (Punjab). Sultan Alauddin Khalji's general Ulugh Khan met them on the banks of River Sutlej in Punjab. In the ensuing battle (Battle of Sutlej, 5 February 1298), 20,000 Mongols died.⁶³

60 Mohammad Habib, *Sultan Mahmud of Ghazni: A Study*. Aligarh: Aligarh Muslim University, 1927, pp. 12-5.

61 Mahomed Kasim Ferishta, *History of the Rise of the Mahomedan Power in India*, tr. from the original Persian by John Briggs, vol. 1. 1829, reprint, Oriental Books, New Delhi 1981, p. 21.

62 *Tarikh-i-Firoz Shahi*, tr. by Ishtiyaz Ahmad Zilli. PRIMUS, Delhi 2015, pp. 168-69, 182-84.

63 Banarsi Prasad Saxena, 'Alauddin Khalji: Conquest of Power (1296-1301),' in Habib and Nizami (eds.), *A Comprehensive History of India*, vol. 5, Part 1, p. 332.

On 18 December 1398, at the Battle of Delhi, the Delhi Sultanate Army under the sultan and his minister Mallu Iqbal confronted Amir Timur, who deployed 60,000 cavalymen. The Delhi Sultanate Army numbered 10,000 horse and 40,000 foot soldiers recruited from the Jats, Gujars and Meos of north India and equipped with swords and spears (made of bamboos with an iron tip). Some of the Hindu infantry were armed with *bans* (handheld rockets) and grenades. First Timur ambushed the advance guard of the Delhi Sultanate's army with the aid of his *iltimish* (advance reserve), van and right wing. Second, Timur attacked in an oblique rather than in frontal manner. His right wing struck the extreme position of the Delhi Sultanate Army's left wing. Before the centre and right of the Sultanate Army could come into play, Timur's fast moving horsemen had destroyed the beleaguered left wing. Then Timur's left wing destroyed the Delhi Sultanate Army's right wing. The Delhi Sultanate's centre held firm till it was surrounded from all sides.⁶⁴

With time, the proportion of cavalry vis a vis infantry rose in the Muslim armies. Zahiruddin Babur at the First Battle of Panipat (21 April 1526) deployed 10,000 cavalry (light horse archers and sword equipped armoured horsemen), 4,000 infantry armed with matchlocks and 2,000 gunners for firing light guns and small mortars. Ibrahim Lodhi, the ruler of the Delhi Sultanate opposed him with 72,000 cavalry (Afghan and Rajput) and 28,000 sword and spear equipped infantry (mostly Hindus). In the ensuing battle, the Lodhi Army suffered 50,000 dead.⁶⁵ It was one of the deadliest battles of India in particular and the world in general. Only in the Third Battle of Panipat (14 January 1761), would the quantum of carnage be greater.

64 Mohammad Habib, 'Amir Timur,' in Habib and Nizami (eds.), *A Comprehensive History of India*, vol. 5, Part 1, p. 121 (101-31); Jadunath Sarkar, *Military History of India*. 1960, reprint, Orient Longmans, Bombay 1970, pp. 45-8; Kishori Saran Lal, *Twilight of the Sultanate*. 1979, reprint, Munshiram Manoharlal, New Delhi 1980, p. 26.

65 Zain Khan, *Tabaqat-I Baburi*, tr. S. Hasan Askari, annotation B.P. Ambastha. Idarahi-I Adabiyat-I Delli, Delhi 1982, pp. 80-90.

Table 2: Battles

Date	Name	Army Size		Casualties of the Loser	
		Victor	Defeated Party	Absolute	Percentage
326 BCE	Battle of Jhelum (Hydaspes)	Alexander	Paurava-30,000 infantry and 6,000 cavalry Infantry-Cavalry ratio= 5:1	20,000 infantry and 3,000 cavalry	63.8%
August 1001 CE	Battle of Peshawar	Mahmud Ghazni 10,000 cavalry	Jaipal 12,000 cavalry and 30,000 infantry Infantry-Cavalry ratio 2:5	5,000	11.9%
5 February 1298	Battle of Sutlej	Delhi Sultanate (unknown)	Chagatai Kanate (unknown)	20,000	-
18 December 1398	Battle of Delhi	Timur 60,000 cavalry	Delhi Sultanate 10,000 cavalry and 40,000 infantry. Infantry-Cavalry ratio 4:1	(unknown)	-
21 April 1526	First Battle of Panipat	Babur 10,000 cavalry, 4,000 infantry and 2,000 gunners Infantry-Cavalry ratio=2:5	Ibrahim Lodhi of the Delhi Sultanate 72,000 cavalry and 28,000 infantry Infantry-Cavalry ratio 18:7	50,000	50%

Note: Casualties would have been higher if the number of wounded and prisoners are taken into account. The sources have been cited in the main text, so not repeated here.

During sieges in early India, chariots and cavalry were mere bystanders. Both the defenders and the besiegers mainly depended on foot soldiers. The massive defensive citadels at Harappa and Mohenjodaro (cities of the Indus Val-

ley Civilisation) were provided with guards' quarters which housed the standing garrisons.⁶⁶ If the battles of early India were bloody (see table 2), the sieges were bloodier still. Worse, during sieges, the civilians also became casualties. Alexander Cunningham on the basis of archaeological findings note that the Kathaeans had 30,000 men at the fortress of Sangala. The siege and subsequent assault by Alexander's army in 326 BCE resulted in the death of 7,000 killed and 17,000 prisoners.⁶⁷

Faced with Islamic horse archers, the Hindu rulers of early India fell back to positional warfare based on forts. King Bhoja's *Samaranganashutradhara* (eleventh century CE) noted that the best forts were mountain forts (protected by hills where it would be difficult for the sultans to bring catapults), forest forts (surrounding deep jungle unsuited for Islamic cavalry), desert forts (with water storage capacities so that the garrison unlike the besiegers do not suffer from water shortage), and finally water forts (protected with wet ditches and mud brick fortifications).⁶⁸ In swampy and watery regions, Islamic horse archer's mounts and composite bow both malfunctioned.

India was a highly militaristic society as the ordinary peasants possessed martial training and had access to the locally produced weapons of war. If anything, the intensity and frequency of insurgency (armed rebellion by the subject population) increased with the spread of Islamic rule in India. For instance, during 1266-1267, Balban faced a large scale uprising by the Rajputs of Katehar and the Gangetic plains. He had to deploy 100,000 infantrymen (equipped with swords and archers) for taking the cities and the mud forts built by the rebels. The infantry also carried out non-kinetic tasks like cutting forests, making roads, etc.⁶⁹ Again, in 1490, Sultan Sikandar Lodhi of Delhi had to face a large

66 Sarva Daman Singh, *Ancient Indian Warfare with Special Reference to the Vedic Period*. 1965, reprint, Motilal Banarasisdass, Delhi 1989, p. 7.

67 Alexander Cunningham, *The Ancient Geography of India*, ed. with an Introduction and Notes by Surendranath Majumdar Sastri. 1924, reprint, Munshiram Manoharlal, New Delhi 2016, pp. 215-17.

68 Jagadish Narayan Sarkar, *The Art of War in Medieval India*. Munshiram Manoharlal, New Delhi 1984, p. 146.

69 A.B.M. Habibullah, *The Foundation of Muslim Rule in India: A History of the Establishment and Progress of the Turkish Sultanate of Delhi, 1206-1290*. 1961, reprint, Central Book Depot, Allahabad 1976, pp. 138-42.

scale armed rebellion by the Hindu zamindars of Jaunpur, Katehar, Allahabad, and Bachgotis (north India). They collected 100,000 armed peasants and horse-men. The royal forces were engaged in COIN for suppressing these ‘lawless’ elements for three years. In 1494, the region was pacified.⁷⁰

Conclusion

The vast demographic resources of India along with rich agrarian resources enabled the Indian rulers and warlords to raise huge infantry centric armies. There was no need for conscription. The Indian subcontinent abounded with military volunteers. Cultural values associated with military service being a prestigious one and the prospect of loot and plunder pushed the peasants and the elites towards military service. This essay has shown that with the passage of time a rudimentary bureaucracy emerged for administering the army and the military thinkers were aware of the importance of training and discipline. The evolution of weapon system of the infantry was continuous. Efforts were made to absorb the latest arms and armour from the enemy in order to raise the military effectiveness of the *paiks*.

However, the question arises why the *paiks* in ancient and early medieval India could not become as effective as the infantry was in the Greco-Roman system? In fact, modern historiography is arguing that in early medieval Europe, not the knights in shining armour, but the infantry constituted the cutting edge of the Carolingian armies.⁷¹ Some Western historians assert that due to unique European ethos, close quarter combat by the infantry which formed the basis of the so called Western Way of War did emerge in Western Europe. In contrast, runs the argument, cultural factors again, explains the ‘Easterners’ preference to fight with missile weapons from a distance.⁷² This assumption smacks of ethno-centrism. There are lots of evidence that Indian infantry engaged in deadly hand

70 *The Tabaqat-i-Akbari* of Khwaja Nizamuddin Ahmad, vol. 1, tr. by B. DE. 1911, reprint, The Asiatic Society, Calcutta 1973, pp. 359-66.

71 See for instance, Bernard Bachrach, *Charlemagne's Early Campaigns (768-777): A Diplomatic and Military Analysis*. Leiden/Boston: Brill, 2013.

72 For example, John Keegan, *A History of Warfare*. 1993, reprint, Vintage Books, New York 1994.

to hand combat with the hostile forces.

Drilled and disciplined heavy infantry in India did not emerge due to ecological and strategic factors. The vast Indian empires (Maurya Empire, Delhi Sultanate, etc.) required their armies to cross huge distance. The distance between Sonargaon at the eastern extremity and Kandahar at the western extremity of the Maurya Empire as the crow flies is 1,600 miles. As a point of comparison, the distance between London and Leningrad as the crow flies is 1,300 miles. The *Wehrmacht* had to tackle this distance in strategic planning only in 1941. The distance between Peshawar and Mysore in Alauddin's Khalji Sultanate is 1,528 miles. The distance between Paris and Vilnius which Napoleon had to manage in 1812 is 1,287 miles. Hence, for mobility to acquire security, the premodern Indian armies had to use chariots in the ancient age and horses in the medieval age. Footslogging infantry just could not cover this distance during emergencies. Further, the wide plains of India especially along the river valleys which had been the cradle of civilisation was suited for large scale chariot charge. The narrow and rocky terrain of Mycenaean Greece resulted in the replacement of chariotry with hoplites. Then again in the elephants, the Indian generals had a better instrument compared with the phalanx and legions. Elephants were absent in Europe. Even Alexander the great was apprehensive of Paurava's 300 elephants. So much so, the Greek soldiers refused to march against the Nanda Empire due to the large number of war elephants (more than one thousand) which they could deploy.

The grasslands of Eurasia jutted into the Indian subcontinent through Afghanistan into west Punjab and Kathiawad Peninsula. This enabled the steppe nomads from Turkestan and Afghanistan to launch large scale forays repeatedly against the sedentary states of India from circa 100 BCE onwards. In contrast, the Eurasian grasslands proper ended in South Russia. The Hungarian grassland was limited in size. Hence the Hunnic and Mongol invasions against Europe petered out. Ecology saved Western Europe from the Inner Asian horse archers. But, the steppe nomadic mounted archers with their composite bows ran roughshod in India. A composite bow in terms of range and accuracy outperformed a musket not to speak of the bamboo bows of the Hindu infantry till circa 1700 CE. Some rulers of ancient India tried to experiment by equipping

infantry with composite bows.⁷³ However, the immobile Indian infantry armed with composite bows stood no chance against the mounted horse archers of the Sakas, Parthians, Kushanas, Huns and the Turks, who could shoot from galloping horses. Further, peasants from the river valleys could never match these steppe nomads who learnt the art of composite bow making and shooting from their childhood. Riding horses and hunting with the composite bows was part of their livelihood (hunting and fighting). Ecology and huge agrarian resources of India enabled rulers to import horses in large numbers from Central Asia and West Asia. Thus, Alauddin Khalji could maintain a cavalry force numbering 475,000.⁷⁴ Under Muhammad bin Tughluq (r. 1325-1351), the number rose to 900,000 horsemen.⁷⁵ Neither Charlemagne nor Otto I could maintain this number of cavalry. Mobile horse archers numbering in hundred thousand could have made mincemeat of spear and sword equipped infantry in the phalanx and legions, and arquebus and pikes equipped tercios. Herein lies the uniqueness of early Indian military history in general and infantry in particular.

73 A. Cunningham, 'Later Indo-Scythians, "Epthalites, or White Huns",' *Numismatic Chronicle and Journal of the Numismatic Society*, Vol. 14 1894, p. 280.

74 Kishori Saran Lal, *History of the Khaljis: AD 1290-1320*. 1979, reprint, Munshiram Manoharlal, New Delhi 2019, p. 193.

75 U.N. Day, *The Government of the Sultanate*. 1972, reprint, Munshiram Manoharlal Publishers, New Delhi 1993, p. 97.



Antique Mughal riveted mail and plate coat *zirah bagtar*. Armour of this type was introduced into India under the Mughals. Foto Samuraiantiqueworld 2008. CC SA 3.0. (Wikimedia Commons)

The Early Ionian Hoplite

ETHAN COULSON-HAGGINS*

Introduction

Infantry warfare in Archaic Greece (c.750-480) was marked by the rise of the heavily armoured infantryman: the ‘hoplite’.¹ Scholarship has long crossed swords over every aspect of this ancient warrior, from his origin, to his equipment and method(s) of war, to the extent of his political impact on the then still nascent city-state (*polis*).² While this so-called ‘hoplite debate’ ultimately remains unsettled, recent ‘revisionists’ – or ‘heretics’ – broadly agree Archaic hoplite warfare was relatively open, with early hoplites lacking in a uniform panoply and engaging in both missile and close-quarters combat in massed fluid formations alongside other troop types.³ Discussion has often centred around

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- 1 The terms ‘hoplite’ and ‘phalanx’ are inventions of the fifth century, constructed at a time when the hoplite was uniformly armed and fought in the exclusive, close-ordered formation (so Fernando Echeverría, ‘Hoplite and Phalanx in Archaic and Classical Greece: A Reassessment’, *Classical Philology* 107.4 (2012), pp.291-318). Both terms are still used here in relation to the early Archaic period, however, as agreed alternatives have not yet arisen.
- 2 For overviews of this debate, see Donald Kagan & Gregory F. Viggiano (eds.), *Men of Bronze. Hoplite Warfare in Ancient Greece*, Princeton, 2013, pp.1-56; Fernando Echeverría, ‘The “Hoplite Revolution” and the Nature of Hoplite Warfare’, in Waldemar Heckel, F.S. Naiden, Edward E. Garvin, & John Vanderspoel (eds.), *A Companion to Greek Warfare*, Hoboken, 2021, pp.75-97; Roel Konijnendijk, Cezary Kuciewicz & Matthew Lloyd, ‘Introduction: Beyond the Phalanx’, in Roel Konijnendijk, Cezary Kuciewicz & Matthew Lloyd (eds.), *Brill’s Companion to Greek Land Warfare Beyond the Phalanx*, Leiden, 2021, pp.3-8; Roel Konijnendijk & Fernando Echeverría, ‘Max Weber, the rise of the *polis*, and the “hoplite revolution” theory’, *Journal of the History of Ideas* 84.1 (2023), pp.118-123.
- 3 So e.g. Peter Krentz, ‘Fighting by the Rules: The Invention of the Hoplite Agón’, *Hesperia* 71 (2002), pp.35-37; *ibid.* *The Battle of Marathon*, New Haven, 2010, pp.59-60; *ibid.* ‘Marathon

Archaic evidence from the Greek mainland (European Greece), particularly the early figural iconography produced in Corinth and the elegiac exhortations of Tyrtaeus in Sparta, resulting in evidence from an important region being generally underrepresented – that of Ionia, to the East.⁴

Archaic period Ionia was marked by turmoil, to such an extent that it was not uncommon for entire (urban) communities to flee abroad.⁵ Like their mainland counterparts, Archaic Ionians fought amongst themselves, but they also faced consistent threat from ‘non-Greek’ forces, notably the Lydian kings of the Mermnad Dynasty (675–546), eventually becoming subjugated to King Croesus from 560, followed by the Achaemenid Empire from 547 with its appointment of local tyrants.⁶ Brief mentions in sources also note the Ionians fought with

and the Development of the Exclusive Hoplite Phalanx’, in Christopher Carey & Michael Edwards (eds.), *Marathon – 2,500 Years. Proceedings of the Marathon Conference 2010*, London, 2013, pp.35–44; Hans van Wees, ‘The Development of the Hoplite Phalanx: Iconography and Reality in the Seventh Century’, in Hans van Wees (ed.), *War and Violence in Ancient Greece*, London, 2000, pp.125–166; *ibid.* *Greek Warfare: Myths and Realities*, London, 2004, pp. 64; 166–183; *ibid.* ‘Farmers and hoplites: models of historical development’, in Kagan & Viggiano, *Men of Bronze*, cit. pp.240–244; Louis Rawlings, *The Ancient Greeks at War*, Manchester, 2007, pp.54–58; 85; Roel Konijnendijk, ‘Neither the Less Valorous nor the Weaker’: Persian Military Might and the Battle of Plataia’, *Historia* 61.1 (2012), pp.10–11; Gregory Viggiano & Hans van Wees, ‘The Arms, Armour, and Iconography of Early Greek Hoplite Warfare’, in Kagan & Viggiano, *Men of Bronze*, cit. pp.57–73; Roel Konijnendijk & Paul M. Bardunias, ‘The Face of Battle at Plataiai’, in Andreas Konecny & Nicholas Sekunda (eds.), *The Battle of Plataiai 479 BC*, Vienna, 2022, pp.211–242; see also Echeverría, ‘Hoplite’, cit.

- 4 By ‘Ionia’, I limit my investigation to the twelve members listed as part of the *κοινὸν Ἰώνων* (Ionian League) by Herodotus (1.142) – Phocaea, Clazomenae, Erythrae, Chios, Teos, Lebedus, Colophon, Ephesus, Samos, Priene, Myus, and Miletus – but with the addition of ‘Old’ Smyrna (Hdt. 1.149.1).
- 5 Hdt. 1.164; 6.22; Jan Paul Crielaard, ‘Ionian and Aeolian City-States during the Archaic Period: Urban Culture and Urban Elites in their Wider Mediterranean Setting’, in Yaşar Ersoy & Elif Koparal (eds.), *Ionians: The Sages of the Aegean Shore*, Istanbul, 2022, p.106.
- 6 Callin. frs.1; 5a West; Mimn. frs.13; 13a; 14 West; Hdt. 1.6.2–3; 14–22; 25–28; 141; Poly. *Strat.* 7.2.2; Paus. 4.21.5; 9.29.4; Strab. 14.1.4; e.g. John Boardman, *Early Greek Vase Painting*, London, 1998, p.141; Christopher H. Roosevelt, *The archaeology of Lydia, from Gyges to Alexander*, Cambridge, 2009, pp.22–26; Jan Paul Crielaard, ‘The Ionians in the Archaic period. Shifting identities in a changing world’, in Ton Derks & Nico Roymans (eds.), *Ethnic Constructs in Antiquity: The Role of Power and Tradition*, Amsterdam, 2009, p.41 with references; Kevin Leloux, ‘The Campaign of Croesus against Ephesus: Historical and Archaeological Considerations’, *Polemos* 21.2 (2018), pp.47–63; Mait Kōiv, ‘Greek Rulers and Imperial Powers in Western Anatolia (8th–6th Centuries BC)’, *Studia Antiqua et Archaeologica* 27.2 (2021), pp.357–373; Sabine Müller, ‘The Persian Wars to Alexander’, in Heckel, Naiden, Garvin, & Vanderspoel, *A Companion to Greek Warfare*, cit. p.21; Dominique Lenfant, ‘Ionia

their Aeolian and Carian neighbours as well as invading Cimmerians.⁷ Over 50 years ago, Anthony Snodgrass remarked the Ionians (in their broadest geographical sense along the Western coast of Asia Minor) were not pioneers of the hoplite (as a military phenomenon) in Greece, and the fragmented nature of evidence ensures we cannot ascertain when the hoplite panoply was first adopted in the region.⁸ His former remark has since been questioned, as some connect early Ionian (and Carian) mercenary service with the development of both the hoplite panoply and the close-order, exclusive phalanx formation.⁹ Outside of mercenary service, however, little attention has been paid to the nature of infantry warfare in Ionia when compared to the wealth of research and debate that still consumes discussions of the Greek mainland. The late Sir John Boardman summarised it well when noting modern scholarly outlooks on the Eastern Mediterranean as ‘all just a little foreign to scholars brought up on Athens and Corinth and Sparta and Olympian ideals.’¹⁰

For those few who have looked across the Aegean Sea at Greece’s neighbouring shore of Ionia and speculated on warfare,¹¹ of note is Alan

under Persian Domination’, in Ersoy & Koparal, *Sages*, cit. pp.480-481.

- 7 Callin. fr.5a West; Hdt. 1.6.3; Strab. 14.1.14; see also Archil. fr.20 West; so Crielaard, ‘Ionians’, cit. pp.59-60; Crielaard, ‘Ionian and Aeolian City-States’, cit. p.106; Naoise Mac Sweeney, ‘Violence and the Ionian Migration: Representation and Reality’, in Nicholas Stampolidis, Çiğdem Maner & Konstantinos Kopanias (eds.), *NOSTOI: Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Age*, Istanbul, 2015, pp.253-255.
- 8 Anthony M. Snodgrass, *Arms and Armour of the Greeks*, Ithaca NY, 1967, pp.59; 64.
- 9 So John R. Hale, ‘Not Patriots, Not Farmers, Not Amateurs: Greek Soldiers of Fortune and the Origins of Hoplite Warfare’, in Kagan & Viggiano, *Men of Bronze*, cit. pp.176-193, with Nino Luraghi, ‘Traders, Pirates, Warriors: The Proto-History of Greek Mercenary Soldiers in the Eastern Mediterranean’, *Phoenix* 60.1 (2006), pp.21-47; cf. more recently Hans van Wees, ‘The First Greek Soldiers in Egypt: Myths and Realities’, in Konijnendijk, Kucewicz & Lloyd, *Beyond the Phalanx*, cit. pp.293-344.
- 10 John Boardman, ‘The Study of East Greek Pottery’, in Alexandra Villing & Udo Schlotzhauer (eds.), *Naukratis: Greek diversity in Egypt: Studies in East Greek pottery and exchange in the Eastern Mediterranean*, London, 2006, 49-52.
- 11 E.g. Hilda L. Lorimer, ‘The Hoplite Phalanx with Special Reference to the Poems of Archilochus and Tyrtaeus’, *The Annual of the British School at Athens* 42 (1947), pp.76-138; Snodgrass, *Arms and Armour*, cit. pp.64-66 for discussions on the adoption of the hoplite panoply in Ionia. Crielaard, ‘Ionians’, cit. pp.57-60; Naoise Mac Sweeney, *Foundation Myths and Politics in Ancient Ionia*, Cambridge, 2013; Mac Sweeney, ‘Violence’, cit. pp.239-256 on the warlike identity of Archaic Ionians.

Greaves.¹² Greaves provided an overview of warfare in Archaic Ionia (pitched battle, siege, mercenary service, naval) and was hesitant to label infantry warfare as ‘hoplitic’ and what this terminology may imply about a shared similarity in warfare practice with the Greek mainland. Rather, he preferred to assert that Archaic Ionian warfare was more reflective of an Anatolian siege craft style of conflict, often fought between opposing infantry forces of ‘non-hoplites’.¹³ As will be demonstrated here, this analysis can be contradicted on more than one account.

A study encapsulating every aspect of infantry warfare in Archaic Ionia, from how it was fought (pitched battle, siege, mercenary service abroad), to the different troop types involved (hoplites, light-armed, archers)¹⁴ is certainly ambitious, and one which extends beyond the scope of this brief chapter. Early Ionian mercenary service has already been well researched.¹⁵ Take, for example, the often-referenced remark in Herodotus of Ionian and Carian χαλκῶν ἀνδρῶν (‘men of bronze’) who aided Psammetichus I of Egypt,¹⁶ or the bronze hoplite shield and greave from Carchemish (Syria),¹⁷ the former being of Ionian

12 Alan M. Greaves, *The Land of Ionia: Society and Economy in the Archaic Period*, Chichester, 2010, pp.145-170.

13 Greaves, *The Land of Ionia*, cit. pp.154; 162-163; 169-170. Herodotus does note the Lydians repeatedly besieged Ionian cities (1.15.1; 17.1; 3; 19.1; 26.1-2; cf. 141.4; Paus. 4.21.5). He also implies that Miletus had a naval fleet in the late seventh/early sixth century (τῆς γὰρ θαλάσσης οἱ Μιλήσιοι ἐπεκράτειον), one that deterred Alyattes from besieging the city (Hdt. 1.17.3; cf. the Samian fleet in 3.122.2).

14 Sources indicate some Ionian *poleis* had significant cavalry forces to use against Lydians in the sixth century (Hdt. 1.27.2-4; Poly. *Strat.* 7.2.2).

15 More recently e.g. Hale, ‘Patriots’, cit.; Liviu Mihail Iancu, ‘Greek and Other Aegean Mercenaries in the Archaic Age: Aristocrats, Common People, or Both?’, *Studia Hercynia* 20.2 (2016), pp.9-29; Liviu Mihail Iancu, ‘A Golden Bracelet and a City as a Prize for Valor’, *Aegean Mercenaries and a New Theoretical Model for the Archaic Eastern Mediterranean*, *Antheisteria* 6 (2017), pp.49-61; van Wees, ‘First Greek Soldiers’, cit., all with references.

16 Hdt. 2.152.3-5.

17 E.g. Charles L. Woolley, *Carchemish, Volume 2: The Town Defenses*, London, 1921, pp. 80-81; 125; 130 with pl.24; John Boardman, *The Greeks Overseas: Their Early Colonies and Trade* (4th edn.), London, 1999, p.51; Wolf-Dietrich Niemeier, ‘Archaic Greeks in the Orient: Textual and Archaeological Evidence’, *Bulletin of the American Schools of Oriental Research* 322 (2001), pp.19-20; Benjamin Sullivan, ‘Paying Archaic Greek Mercenaries: Views from Egypt and the Near East’, *The Classical Journal* 107.1 (2011), p.51; see also Bernd U. Schipper, ‘Egypt and the Kingdom of Judah under Josiah and Jehoiaakim’, *Tel Aviv* 37 (2010), pp.203-204; 209-210.

workmanship and dating roughly to the mid-seventh century (suggesting not only the employment of Ionian mercenaries in the East but the existence of the early Ionian hoplite). So too is there the iconographic representation of hoplite infantry on the popular Amathus bowl,¹⁸ their 'East Greek' ethnicity suggested by their Ionic helmets.¹⁹ The dating of the bowl is disputed, although Markoe's very early dating (c.710-675) is no longer agreed upon,²⁰ and a broad date within the seventh century appears to be the consensus.²¹ Here Ionian (or, perhaps, Carian) hoplites are depicted in what could be (and often has been) perceived as a phalanx, suggesting they adopted the formation upon the panoply's introduction in the seventh century (especially if one was to follow the early dating of

18 E.g. John L. Myres, 'The Amathus Bowl: A Long-Lost Masterpiece of Oriental Engraving', *The Journal of Hellenic Studies* 53 (1933), pp.25-39 with pls.1-3; Richard D. Barnett, 'The Amathus Shield-Boss Rediscovered and the Amathus Bowl Reconsidered', *Report of the Department of Antiquities of Cyprus* (1977), pp.164-169 with pls.48.2, fig.3; William A.P. Childs, *The City-Reliefs of Lycia*, Princeton, 1978, pp.55-58; Glenn E. Markoe, *Phoenician bronze and silver bowls from Cyprus and the Mediterranean*, Berkeley, 1985, pp.51-52; 172-174 no.Cy4; Boardman, *Greeks Overseas*, cit. p.50; Diana Neri, *Le coppe fenicie della tomba Bernardini nel Museo di Villa Giulia*, La Spezia, 2000, p.26; Niemeier, 'Greeks in the Orient', cit. p.21; Luraghi, 'Traders', cit. pp.36-38; Hale, 'Patriots', cit. pp.182-184 with fig.9.1; Marco Bettalli, *Mercenari: Il mestiere delle armi nel mondo greco antico*, Rome, 2013, pp.236-237; Christian Vonnhoff, 'Phoenician Bronzes in Cyprus', in Javier Jiménez Ávila (ed.), *Phoenician bronzes in Mediterranean*, Madrid, 2015, pp.284-288; Sandra Blakely, 'Images, Merchants, and Mercenaries: Aegeans and Southern Judah in the Eighth Century BCE', in Zev I. Farber & Jacob L. Wright (eds.), *Archaeology and History of Eighth-Century Judah*, Atlanta GA, 2018, pp.49-50.

19 Myres, 'Amathus', cit. pp.35-36; Anthony M. Snodgrass, *Early Greek Armour and Weapons*, Edinburgh, 1964, p.31; Barnett, 'Amathus Shield-Boss', cit. p.166; Niemeier, 'Greeks in the Orient', cit. p.21; cf. Hale, 'Patriots', cit. p.183; contra. Adam Schwartz, *Reinstating the Hoplite: Arms, Armour and Phalanx Fighting in Archaic and Classical Greece*, Stuttgart, 2009, p.133. For this helmet type see below.

20 Markoe, 'Phoenician bronze', cit. Some still follow his conclusions (e.g. Neri, *Coppe Fenicie*, cit.; Luraghi, 'Traders', cit. p.36; Schwartz, *Reinstating the Hoplite*, cit. p.135; Bettalli, *Mercenari*, cit. p.236; Blakely, 'Images', cit. p.49).

21 E.g. Brian F. Cook, *Cypriote art in the British Museum*, London, 1979, pp.26-27; Shelby Brown, 'Perspectives on Phoenician Art', *Biblical Archaeologist* 55.1 (1992), p.8; Boardman, *Greeks Overseas*, cit. p.50; Alexander Fantalkin, 'Did Ionian or other Greek and Carian mercenaries serve in the Neo-Assyrian army?', in Gocha R. Tsetskhladze (ed.), *Ionians in the West and East: Proceedings of the International Conference 'Ionians in East and West', Museu d'Arqueologia de Catalunya-Empuries, Empuries/l'Escala, Spain, 26-29 October 2015*, Louvain, 2022, p.443.

Markoe).²² However, one immediate question that arises is how a phalanx could operate within the context of a siege, a context within which the formation was entirely unsuitable. Hale, who championed the depiction of the formation, noted that the hoplites are likely approaching the ladder being set up in front of them by another (non-hoplite) warrior to scale the walls.²³ Ober noted the difficulty of escalades (climbing fortification walls with the use of ladders) by hoplites, although Sullivan pointed out they are shown doing so on the much later smaller podium frieze of the Nereid monument (c.380).²⁴ However, Sullivan failed to note that they would have to break formation to climb the battlements – while a hoplite could advance up a ladder, the phalanx could most certainly not.²⁵ Whatever formation the hoplites approach the city in, they would ultimately have to break it to escalate and presumably upon reaching the battlements fight out of formation against the opposing mixed force of infantry, which likewise includes enemy hoplites outside of any formation.

Setting mercenary service aside, my aim here is to offer a broad survey of often overlooked evidence specifically concerning the Ionian hoplite that was produced locally in Ionia proper during the seventh and sixth centuries. By doing so, this chapter seeks to understand, as far as the scant evidence allows, when local infantrymen first adopted the hoplite panoply and how it was used compared to their contemporary counterparts from the Greek mainland. In direct contrast to Greaves, my reading of the local evidence presented here suggests that Ionian warriors adopted and used the hoplite panoply from early in the seventh century, very likely in massed fluid formations that resemble revisionist reconstructions of early hoplite warfare on the Greek mainland.

22 E.g. Luraghi, 'Traders', cit. p.38; Schwartz, *Reinstating the Hoplite*, cit. pp.130-135; Sullivan, 'Paying Greek Mercenaries', cit. pp.42-43 n.45; Bettalli, *Mercenari*, cit. p.236; Hale, 'Patriots', cit. p.183.

23 Hale, 'Patriots', cit. p.183.

24 Block BM 872; Josiah Ober, 'Hoplites and Obstacles', in Victor Davis Hanson (ed.), *Hoplites: The Classical Greek Battle Experience*, London, 1991, pp.181-193; Sullivan, 'Paying Greek Mercenaries', cit. pp. 42-43 n.45.

25 Cf. Bettalli, *Mercenari*, cit. p.237.

Votive Dedications

Greaves did concede that some evidence from Ionia may point towards hoplite warfare, namely the findings from the temple on Çatallar Tepe (c.560).²⁶ The temple's West Room was decorated with weapons, with excavation uncovering seven bronze spear heads, a *σαυρωτήρ* (*sauroter*), and part of a bronze cuirass.²⁷ The weapons and armour were found alongside a wealth of sympotic artefacts (wine sieve, drinking cups, ivory appliques for beds), leading excavators to suggest the intended use of the room was as an aristocratic *λέσχη* (meeting place).²⁸ If accepted, this interpretation of the room may suggest the sixth century Ionian elite fought as hoplites, wanting to decorate their meeting hall with their tools for war. However, crucially, remains of the round hoplite shield are absent, meaning the equipment here cannot solely be used to assert the existence of an Archaic Ionian hoplite.²⁹

Underneath the sixth-century temple sits a well preserved seventh century ναῦσκος (small temple).³⁰ At the North end of the cult bench excavators uncovered two small terracotta warriors, standing close together (one directly behind

26 Greaves, *Land of Ionia*, cit. p.148-153; generally Hans Lohmann, 'The Discovery and Excavation of the Archaic Panionion in the Mycale (Dilek Dağları)', *Kazı Sonuçları Toplantısı* 28.2 (2007), pp. 575-590; Hans Lohmann, 'Melia und das archaische Panionion am Çatallar Tepe in der Mycale', in Ünsal Yalçın (ed.), *Anatolian Metal VI*, Bochum, 2013, pp.109-122; Hans Lohmann, 'Where the Bull Groaned: Melia and the Temple of Poseidon Helikionios on Mt Mycale (Dilek Dağları/ Aydın)', in Tsetschladze, *Ionians in the West and East*, cit. pp.143-168; Frank Hulek, *Der hocharchaische Tempel am Çatallar Tepe. Architektur und Rekonstruktion*, Bonn, 2007. Hans Lohmann, von Hermann Büsing, Frank Hulek, Georg Kalaitzoglou, Gundula Lüdorf, Marc Müllenhoff, & Philipp Niewöhner, 'Forschungen und Ausgrabungen in der Mycale 2001-2006', *Istanbuler Mitteilungen* 57 (2008), pp. 59-178.

27 Lohmann, 'Discovery', cit. p.579; Lohmann, 'Where the Bull Groaned', cit. p.161; Kalaitzoglou in Lohmann et al., 'Forschungen und Ausgrabungen', cit. pp.141-157 with figs.32-37.

28 Hans Lohmann, '...und es blizet von Erz der große Saal: zum Bankettsaal des archaischen Panionion', in Linda-Marie Günther (hg.), *Tryphe und Kultritual im archaischen Kleinasien—ex oriente luxuria?*, Wiesbaden, 2012, pp.96-125; Hans Lohmann, 'Where the Bull Groaned', cit. p.161.

29 Note the Late Geometric bronze cuirass from Argos, the same that was to be later used by hoplites (e.g. Anthony Snodgrass, 'The Hoplite Reform and History', *The Journal of Hellenic Studies* 85 (1965), p. 112).

30 Lohmann et al., 'Forschungen und Ausgrabungen', cit. 137 fig.29; 142-147; Lohman, 'Melia und das archaische Panionion', cit. p.117 with fig.12; Lohmann, 'Where the bull groaned', cit. pp.162-163.

the other) with heads turned to the left and wearing Ionic helmets.³¹ This local helmet type differed to that of the well-known Greek Corinthian helm and has been recognised as a more advanced piece of armament.³² It had an elongated cap with no nose protection, a curved front piece over the forehead, a ridge of debated purpose³³ that runs from back to front along the top of the helmet (that rises at the front), a neck guard, and separate cheek pieces that were attached to the cap by hinges (meaning they could be raised and lowered).³⁴ These cheek pieces can be indicated in art by incisions at the upper ends and cut in an arc shape to cover most of the lower face, only leaving a narrow gap at the very front of the nose and mouth. It was often topped with a high crest and long plume that fell down the back of the head and part of the neck.³⁵ Here, a cheek piece is missing on each of the two figures, likely to indicate it had been folded upwards (perhaps to simply show the face of each warrior). Further conclusions become speculative since a large portion of the bodies are missing along with any other arms and armour. Greaves viewed these connected figures as hoplite infantry in phalanx formation, turning their body sideways to reduce frontal exposure.³⁶ However, despite the figures wearing contemporary Ionic helmets, it is more likely they are a depiction of mythical figures than historical warriors. Kalaitzoglou viewed the figures as the mythical Geryon, noting the similarities in the helmets here with the near contemporary depictions of the monster on a group of Samian bronze sheets (below).³⁷ Lohmann initially agreed but has

31 Lohmann, 'Discovery', cit. p.590 fig.10; Lohmann et al., 'Forschungen und Ausgrabungen', pp.145-146 with fig.32.

32 Snodgrass, *Armour and Weapons*, cit. pp.31-32; *ibid.* *Arms and Armour*, cit. pp.65-66.

33 See e.g. Jean Ducat, *Les Vases Plastiques Rhodiens*, Paris, 1966, pp.27-29; Karl Heinz Edrich, *Der ionische Helm*, Göttingen, 1969; Robert M. Cook, *Clazomenian Sarcophagi*, Mainz, 1981, p.123 n.99; William R. Biers, 'A Helmeted Ionian', *The Journal of the Walters Art Gallery* 42/43 (1984), pp.2-3; Winfried Held, 'Vom urartäischen Raupenhelm zum ionischen Helm. Zu einer Wangenklappe aus dem Athenaheiligtum in Milet', *Istanbuler Mitteilungen* 49 (1999), pp.141-157. In my view the ridge looks to further reinforce the top of the helmet from blows from above, perhaps developed in response to mounted Lydian cavalry (cf. Hdt. 1.79.3).

34 E.g. Erich Kukahn, *Der griechische Helm*, Marburg, 1936, pp.19; 44.

35 E.g. Anna A. Lemos, *Archaic Pottery of Chios: The Decorated Styles* (2 vols.), Oxford, 1991, p.1.99.

36 Greaves, *Land of Ionia*, cit. p.153.

37 Kalaitzoglou in Lohmann et al. 'Forschungen und Ausgrabungen', cit. pp.145-146 with n.310.

since labelled the terracotta warriors as the Siamese twins Moliones (Actori-one).³⁸ Either way, whether one accepts the figurines as the twins or the Geryon, there is little to comfortably indicate they originally showed two hoplites in organised formation.

The finds from Çatalar Tepe are, however, useful in providing evidence of a broader trend in Archaic Ionia: votive dedication.³⁹ Components of warrior panoplies served as one type of offering (usually gained as a spoil of war) at major Panhellenic sanctuaries by individuals and/or the *polis* in gratitude for victory.⁴⁰ These deposits are important since they provide rich sources of surviving arms and armour, informing us of the equipment used by contemporary warriors that can generate conclusions not only on how contemporary warriors fought but even the social strata to which they may have belonged.⁴¹ It is thus unsurprising that votive deposits from temples on the Greek mainland, namely Olympia and Delphi, have received significant scholarly attention.⁴² In contrast to the mainland, cult sites in the eastern Aegean generally offer poor evidence

38 Lohmann, 'Where the Bull Groaned', cit. p.162; cf. Lohmann, 'Discovery', cit. p.581.

39 Generally Christopher G. Simon, 'The Archaeology of Cult in Geometric Greece. Ionian Temples, Altars, and Dedications', in Susan Langdon (ed.), *New Light on a Dark Age. Exploring the Culture of Geometric Greece*, Columbia MO & London, 1997, pp.125-143.

40 E.g. Willaim Kendrick Pritchett, *The Greek State at War. Part III: Religion*, Berkeley, 1979, pp.240-295; A.H. Jackson, 'Hoplites and the Gods: The Dedication of Captured Arms and Armour', in Hanson, *Hoplites*, cit. pp.228-249; Heide Frielinghaus, *Die Helme von Olympia. Ein Beitrag zu Waffenweihungen in griechischen Heiligtümern*, Berlin, 2011; Holger Baitinger, 'La dedica di armi e armature nei santuari greci – una sintesi' in Raimon Graells i Fabregat & Fausto Longo (cur.), *Armi votive in Magna Grecia. Atti del Convegno Internazionale di Studi. Salerno-Paestum 23-25 novembre 2017*, Mainz, 2018, pp.1-20.

41 See e.g. Eero Jarva, *Archaiaologia on Archaic Greek Body Armour*, Rovaniemi, 1995, pp.33-46; 111-112; 152-153; von Johann P. Franz, *Krieger, Bauern, Bürger: Untersuchungen zu den Hoplitēn in der archaischen und klassischen*, Frankfurt & Main, 2002; Peter Krentz, 'Warfare and Hoplites', in Harvey A. Shapiro (ed.), *The Cambridge Companion to Archaic Greece*, Cambridge, 2007, pp.67-72 with tab.3 on the finds from Olympia.

42 More recently e.g. Holger Baitinger, *Waffenweihungen in griechischen Heiligtümern*, Mainz, 2011; Baitinger, 'La dedica di armi', cit.; Frielinghaus, *Die Helme von Olympia*, cit. pp.210-232; Helene Aurigny, 'Sicilian and Italic votive objects in the Panhellenic sanctuary of Delphi', in Holger Baitinger (hg.), *Materielle Kultur und Identität im Spannungsfeld zwischen mediterraner Welt und Mitteleuropa. Akten der internationalen Tagung am Römisch Germanischen Zentralmuseum Mainz, 22.-24. Oktober 2014*, Mainz, 2016, pp.161-174; Graells i Fabregat & Longo, *Armi votive in Magna Grecia*, cit.

of weapon and armour dedications,⁴³ but they do exist. Of particular prominence is the Sanctuary of Apollo at Branchidai-Didyma,⁴⁴ where German excavators have uncovered large quantities of Archaic metal weapons and small quantities of armour since 1905.⁴⁵ When compared to those from Olympia, these finds are small in number and date relatively late (mostly from the sixth century), ceasing following the failure of the Ionian Revolt and destruction of the sanctuary in the early fifth.⁴⁶ Finds include helmets of Corinthian and sixth century ‘Chalcidian’ type, spear heads of the same length, large arrow heads (of various typologies),⁴⁷ *sauroters*, swords, remains of shields (thin profile edges with holes, shield bands), large knives (for cult practice), and several pieces of ‘Eastern’ (likely Assyrian) equipment.⁴⁸ Of these, the low numbers of swords and other weapon types in comparison to the large numbers of spearheads suggests a preference for the spear over any other weapon type. This, plus the remains of shields (most importantly) and crafted armour pieces (especially Corinthian helmets), suggests a connection between warfare in Archaic Ionia and hoplite warfare of the Greek mainland at least by the sixth century.⁴⁹ The points of the surviving spear heads all have consistent length unlike the large number of specimens found in

43 Greaves, *Land of Ionia*, cit. pp.148-149.

44 For this name see Alan M. Greaves, ‘Divination at Archaic Branchidai-Didyma: A Critical Review’, *Hesperia* 81 (2012), pp.177-206.

45 See overviews in e.g. Helga Bumke & Jan Breder, ‘Die Kulte von Didyma im Licht neu entdeckter Bauten. Bereichernde Grabungs ergebnisse im Apollon Heiligtum’, *Antike Welt* 2 (2016), pp. 52-61; Marek Verčák, ‘“The Ionians at War?” Die Waffenweihungen in den ionischen Heiligtümern und das Apollon-Heiligtum von Didyma’, *Studie Hercynia* 21.2 (2017), pp.7-26.

46 Marek Verčák, ‘Nichts als Schrott? Nahöstliche Panzerschuppen aus dem Apollon Heiligtum in Didyma’, *Distant World Journal* 1: 11-26; Verčák, ‘Ionians at War’, cit. pp.12-13; Marek Verčák & Ümit Güder, ‘Searching for Necho’s Armour in Didyma: An Archaeological and Archaeometallurgical Study on the Archaic Armour Scales’, in Giacomo Bardelli & Raimon Graells i Fabregat (eds.), *Ancient Weapons: New Research Perspectives on Weapons and Warfare. Proceedings of the International Conference – Mainz, September 20th - 21st 2019*, Mainz, 2021, p.195.

47 It is, however, unclear how many of the Persian and Near Eastern arrowheads belong to destruction of sanctuary at end of the Ionian Revolt.

48 E.g. Verčák, ‘Ionians at War’, cit. pp.14-17 with fig.4; Verčák & Güder, ‘Searching for Necho’s Armour’, cit.

49 So Verčák, ‘Ionians at War’, cit. p.18.

Olympia in both Geometric and Archaic contexts.⁵⁰ Both Schmitt and Verčík used this to argue that the same spear was used for both throwing and close-order fighting (i.e. for thrusting) in Ionia.⁵¹ Of course, this alone says nothing on whether local hoplites used javelins since light-armed warriors could have engaged in missile warfare exclusively.

Votive weapon deposits from several other Ionian sanctuaries date earlier. Importantly, the Sanctuary of Athena in Miletus contained four early Archaic miniature bronze shields (likely for cult practice) that closely resemble the round hoplite shield, as well as a cheek piece of a non-Greek helmet.⁵² The Temple of Athena connected to the settlement of Assesos (also within the territory of Miletus) contained only a few examples (three arrowheads, a sword, cheek piece of a helmet), although it is uncertain if these were votive offerings or if they belonged to a military action that led to the destruction of the sanctuary.⁵³ The Sanctuary of Athena at Old Smyrna⁵⁴ and the Heraion of Samos also yielded small quantities of weapons and miniature round shields dating from the seventh century.⁵⁵ The latter contained a series of miniature shields of bronze and terracotta in the shape of hoplite shields dated to just after 700⁵⁶ as well as a small amount of armour remains (helmet, very few life sized shields) and weapons (arrow and spear heads, a sword, ceremonial weapons).⁵⁷ One find was a Corin-

50 Holger Baitinger, *Die Angriffswaffen aus Olympia*, Berlin, 2001, pp.48-50; Hans-Otto Schmitt, 'Die Angriffswaffen', in Rainer C.S. Felsch (hg.), *Kalapodi. Ergebnisse der Ausgrabungen im Heiligtum der Artemis und des Apollon von Hyampolis in der antiken Phokis*, Mainz, 2007, p.459.

51 Schmitt, 'Die Angriffswaffen', cit. p.426; Verčík, 'Ionians at War', cit. p.15.

52 Winfried Held, *Das Heiligtum der Athena in Milet*, Mainz, 2000, p.138 B45 with fig.67.

53 See Georg Kalaitzoglou, *Assesos. Ein geschlossener Befund südionischer Keramik aus dem Heiligtum der Athena Assesia*, Mainz, 2008, pp.291-297.

54 John M. Cook & Richard Vaughan Nicholls, *Old Smyrna Excavations. The Temples of Athena*, London, 1998.

55 E.g. Verčík, 'Ionians at War', cit. pp.19-20.

56 Contra. Lorimer, *Hoplite Phalanx*, cit. pp.109-110. Miniature shields are often associated with female protective deities (Athena, Hera, Aphrodite; see e.g. Philip Brize, 'Offrandes de l'époque géométrique et archaïque à l'Héraion de Samos', in Juliette de La Genière (dir.), *Héra. Images, espaces, cultes. Actes du Colloque International du Centre de Recherches Archéologiques de l'Université de Lille III et de l'Association P.R.A.C. Lille, 29-30 novembre 1993*, Naples, 1997, p.134; Jürgen Fransen, *Votiv und Repräsentation: statuarische Weihungen archaischer Zeit aus Samos und Attika*, Heidelberg, 2011, p.111).

57 E.g. Christian Blinkenberg, *Lindos. Fouilles et recherches, 1902-1914*, Berlin, 1931, pp.186-

thian helmet dated to the second half of the sixth century, linking it to the reign of the tyrant Polycrates and possibly made in offering following the successful defence of Samos against the Lacedaemonians and Corinthians in c.525.⁵⁸ Other than the small terracotta replicas of hoplite shields, an ointment vessel in the shape of a warrior's head wearing a Corinthian helmet was also uncovered from Samos,⁵⁹ as was a silver figurine of a warrior adorned as a hoplite (chiton, bell cuirass, Ionic helmet) from Chios,⁶⁰ both dated as early as the first quarter of the seventh century. These finds, taken with the replica round shields, suggest the adoption of the hoplite panoply by Ionian warriors in the early seventh century.

Archaic Ionia also saw a rise in the production of sculpture and relief artwork dedicated in temples.⁶¹ A once painted frieze from the Samian Heraion, roughly dated to the mid-seventh century, depicts three warriors standing in file.⁶² Little can be said of the scene (since it is highly fragmented), only that each warrior wields a spear and wears a metal helmet, possibly offering a realistic depiction

192; pls.22-25; Aliki Moustaka, 'Ein Votivschild aus dem Heraion von Samos: Zum Verhältnis zwischen Vasenmalerei und Toreutik in Jonien', *Athenische Mitteilungen* 109 (1994), pp.35-36; bibliography in Franssen, *Votiv und Repräsentation*, cit. p.110 n.519. For more recent excavations of (non-military) sacrificial debris around the altar of the Samian Heraion, see Jan-Mark Henke, 'The Heraeum of Samos from the Beginnings to the End of the Archaic Period', in Ersoy & Koparal, *Sages*, cit. pp.400-421, with references.

58 Sepp-Gustav Gröschel, 'Ein korinthischer Helm in Samos', in Hermann Büsing, H. & Friedrich Hiller (hrsg.), *Bathron: Beiträge zur Architektur und verwandten Künsten. Für Heinrich Drerup zu seinem 80. Geburtstag von seinen Schülern und Freunden*, Saarbrücken, 1988, pp.141-158.

59 Ernst Buschor, 'Samos 1952 – 1957', in Deutsches Archäologisches Institut (eds.), *Neue deutsche Ausgrabungen im Mittelmeergebiet und im Vorderen Orient*, Berlin, 1959, p. 212; 213 fig.17; Snodgrass, *Armour and Weapons*, cit. pp.26; 220 n.88; *ibid.* *Arms and Armour*, cit. pp.65; 137 n.21.

60 Lorimer, 'Hoplite Phalanx', cit. pp.88-89 with fig.5; 110; 119.

61 E.g. Marion Meyer & Nora Brüggemann, *Kore und Kouros: Weihegaben für die Götter*, Wein, 2007.

62 Anna A. Lemos, 'Aspects of East Greek Pottery and Vase Painting', in Friedrich Krinzing (hg.), *Die Ägäis und das westliche Mittelmeer. Beziehungen und Wechselwirkungen 8. bis 5. Jhr. v. Chr., Akten des Symposions Wien 24. bis 27. März 1999*, Wien, 2000, pp.383-384 with fig.269; Gottfried Gruben, *Griechische Tempel und Heiligtümer*, München, 2001, p.353 with fig.267; Hermann Kienast, 'Der Kriegerfries aus dem Heraion von Samos', in Dimitrios Pandermalis, Michalis Tiverios & Evangelos Voutiras (επιμ.), *Agalma: Meletes gia ten archaia plastike pros timen tou Giorgou Despina*, Thessaloniki, 2001, pp.13-20; Franssen, *Votiv und Repräsentation*, cit. p.110.

of warriors on the march that were part of a larger group (now lost).⁶³ Shortly after Polycrates established himself as tyrant of Samos (c.540), a statue of a warrior was erected in the Heraion (c.530/520), something significant since Ionian statues of warriors are exceptionally rare (fig.1).⁶⁴ The Samian warrior statue depicts a smaller-than-life-size seated male warrior clad in a chiton, bell cuirass and Ionic helmet (with separate cheek pieces attached via hinges), out of which descends long hair.⁶⁵ The lack of supporting inscription or any other identifiers makes it difficult to ascertain his identity. Some have identified him as Ares or a (Homeric) hero, despite there being no indication of such.⁶⁶ Others have suggested the likelihood the statue is a commemoration of a real person, someone who was important enough – either politically, militarily, or both – to be dedicated to the sanctuary during a period of upheaval in Samos.⁶⁷ It is likely the statue reflects a person of high status, suggested by the long-braided hair of the individual (a characteristic sign of the Samian elite),⁶⁸ its findspot, and its construction from marble (ensuring a high production cost), possibly even Polycrates himself.⁶⁹ Perhaps, then, by erecting a statue in the Heraion, the elite

63 See Kienast, 'Heraion', cit.; cf. Gruben, *Tempel*, cit. p.353; Franssen, *Votiv und Repräsentation*, cit. p.110 with n.524.

64 Berlin SK 1752; e.g. Carl Blümel, *Die Archaisch Griechischen Skulpturen der Staatlichen Museen zu Berlin*, Berlin, 1963, no.39 figs.112-115; Brigitte Freyer-Schauenburg, *Bildwerke der Archaischen Zeit und des Strengen Stils*, Bonn, 1974, pp.158-162 no.78A-C with pls.65-67; John Boardman, *Greek Sculpture: The Archaic Period*, London, 1978, p.88 with no.176; Franssen, *Votiv und Repräsentation*, cit. pp.59; 109-112; Aileen Carty, Polycrates, *Tyrant of Samos: New Light on Archaic Greece*, Stuttgart, 2015, p.199 with 200 fig.10; Anja Slawisch & Vera Sichelschmidt, 'Archaic and Classical Sculpture in Ionia', in Ersoy & Koparal, *Sages*, cit. pp.238-253; esp. 245.

65 E.g. Freyer-Schauenburg, *Bildwerke der Archaischen Zeit*, cit. pp.159-160; cf. Greaves, *Land of Ionia*, cit. p.153. Fragments of the warrior's buttock and left shin (protected by a greave) were also uncovered, and he may have held weapons (now lost; see Freyer-Schauenburg, *Bildwerke der Archaischen Zeit*, cit. p.160-161).

66 E.g. Ernst Buschor, *Altsamische Standbilder* (vol.1), Berlin, 1934, p.48; Blümel, *Griechischen Skulpturen*, cit. p.46; Hans Georg Niemeyer, *Studien zur statuarischen Darstellung der römischen Kaiser*, Berlin, 1968, p.47; Hans Walter, *Das griechische Heiligtum, dargestellt am Heraion von Samos*, Stuttgart, 1990, p.167.

67 Freyer-Schauenburg, *Bildwerke der Archaischen Zeit*, cit. pp.161-162.

68 Franssen, *Votiv und Repräsentation*, cit. p.111 n.533; for Ionian elite hair see Crielaard, 'Ionians', cit. p.61.

69 Freyer-Schauenburg, *Bildwerke der Archaischen Zeit*, cit. pp.161-162; Walter, *Griechische Heiligtum*, cit. p.167; Franssen, *Votiv und Repräsentation*, cit. p.109. Carty (Polycrates, cit.

warrior (Polycrates or otherwise) could publicly display his military achievements and claim public recognition.⁷⁰

Several other very fragmentary examples dated to the second half of the sixth century display similar heavy armament. Three marble relief fragments from the temple of Artemis at Ephesus⁷¹ belonged to a much larger frieze that decorated the Archaic temple, with remains depicting up to 30 (very fragmented) figures. Only the scene of combat between a Centaur and Lapith can be determined with any certainty.⁷² A significant portion of the remainder of relief fragments depict warriors in combat, both on foot and involving chariots.⁷³ Although the poor preservation of the frieze makes certain conclusions of composition difficult, the depiction of Centaurs, Lapiths and chariots suggests the display consisted of scenes from myth. Nevertheless, warriors are depicted in the contemporary hoplite panoply. Perhaps the best examples are three fragments that together depict a heavily armoured hoplite with raised thrusting spear.⁷⁴ He wears a greave and crested Ionic helmet, and the shape of the neckline suggests he wore a cuirass, although much is lost.⁷⁵ Excavations at Branchidai-Didyma also unearthed a smaller than life-sized statue of a male wearing a short chiton but with the remains of a greave above the right knee, suggesting he may have been a warrior and a similar kind of representation to that of the Samian warrior statue.⁷⁶

p.199 with n.1) observed that the much later Apuleius (*Fl.* 15) describes a statue dedicated by Polycrates to the Heraion of his friend Bathyllus where he is depicted as a lyre player. The Samian warrior statue may have served a similar purpose.

70 So Franssen, *Votiv und Repräsentation*, cit. pp.110-112.

71 London 1873.5-5.30; 1873.5-5.31; 1874.2-5.61.

72 Aurthur Hamilton Smith, *A Catalogue of Archaic Greek Sculpture in the British Museum* (pt.1, vol.1), London, 1892, pp.31-33 no.46.

73 Smith, *Sculpture*, cit. pp.33-35 no.47.1-17 (infantry); 24-35 (chariots).

74 London 1874.2-5.114; 1874.7-10.66; 1907.12-1.875.

75 cf. Smith, *Sculpture*, cit. p.33 no.47.1.

76 See Klaus Tuchelt, 'Einige Neufunde archaischer Skulpturen aus Didyma', in Helmut Kyrieleis (hg.), *Archaische und klassische griechische Plastik, Akten des Internationalen Kolloquiums vom 22.-25. April 1985 in Athen, Mainz am Rhein*, 1986, 31-32; Slawisch & Sichelschmidt, 'Sculpture', cit. p.245.

Iconography

When discussing military scenes in iconography with the aim of understanding of how local warriors fought, it is, of course, important to focus on locally produced artwork since only this can betray the values, wants and needs of the (elite) society within which it was produced. There is, for example, a fragmentary *oinochoe* from Erythrai with an outer band that depicts two forces of hoplites clashing (with a bull piercing the arm of the hoplite on the right).⁷⁷ They wear the Archaic hoplite panoply (Corinthian helmet, bell corselet, greaves) and are armed with round hoplite shields decorated with blazons (the *porpax* and *antilabe* are viewable on the far left) and dual spears, the second spear held vertically in the left hand. The scene is reminiscent of the battle scene on the popular Chigi vase,⁷⁸ with hoplites advancing in what could be perceived as a phalangeal formation, and dates to around the same time (c.640).⁷⁹ In contrast to Akurgal,⁸⁰ I argue that, much like revisionist readings of the Chigi vase, the battle scene here does not show hoplites fighting in a phalanx formation.⁸¹ This is suggested by the presence of dual spears, with one being (presumably) used for missile throw-

77 Meral Akurgal, 'Eine protokorinthische Oinochoe aus Erythrai', *Istanbuler Mitteilungen* 42 (1992), pp.84 fig.1a; 2.

78 For this vase see esp. Jeffery M. Hurwit, 'Reading the Chigi Vase', *Hesperia* 71 (2002), pp.1-22 with references; Eliana Murgione (cur.), *L'Olpe Chigi. Storia di un agalma*, Salerno, 2012.

79 See Hurwit, 'Chigi Vase', cit. pp.7-8 with bibliography in n.26.

80 Above n.77.

81 For revisionist analyses of the battle scene on the Chigi vase, see e.g. van Wees, 'Development', cit. pp.136-139; Rawlings, *Greeks at War*, cit. pp.56-57; Viggiano & van Wees, 'Arms, Armour and Iconography', cit. pp.67-69; cf. e.g. Snodgrass, *Armour and Weapons*, cit. pp.138; 198-199; *ibid.* *Arms and Armour*, cit. pp.57-58.



Figure 1 – Marble statue of a warrior from the Heraion of Samos (c.530/20). Staatliche Museen zu Berlin, Antikensammlung / Johannes Laurentius, CC BY-SA 4.0 Inv. Nr. Sk 1752.

ing, something that required more room than offered by the (Classical) close-ordered phalanx.⁸² Admittedly, throwing loops on the secondary spears are not visible here (unlike on the Chigi vase), although Akurgal demonstrated that (a) the vase is Protocorinthian and a product of the same workshop as the Macmillan painter (Chigi vase, Berlin aryballos, Macmillan aryballos); and (b) this artist (whom he called the 'Erythrai painter') was more novice than the Macmillan, attempting to imitate the Chigi vase but failing to do so with such precision (which may explain the lack of depicted throwing loops). Therefore, like with the Chigi vase, the scene offers evidence of a phase of development in hoplite warfare during the Archaic period, one where hoplites operated in a more open order than offered by the Classical phalanx with enough room to still engage in missile throwing. Either way, the scene, although found in Ionia, is of mainland (Corinthian) production by a Corinthian artist, meaning it cannot be used with certainty as a reflection of local Ionic warfare.

Thankfully, other fragmentary examples of locally produced art survive from early Ionia that likewise suggest local warriors fought both as hoplites and outside of the context of the phalanx. Figural scenes are, admittedly, very rare in seventh century Ionian art, with very few examples dating before the second quarter of the sixth century,⁸³ thus making comparisons with warfare scenes in contemporary mainland art rather limited. Production of black-figured iconography only became common in Ionia after c.600, where North Ionian production centres – predominately Clazomenae – moved away from the earlier distinctive 'Wild Goat' style and began to present black-figure scenes on large vases

82 Contra. Wawrzyniec Miścicki, 'Notes on Representations of Hoplites with Double Spears in Archaic Greek Art and the Usage of Javelins and Spears by the Archaic Phalanx', *Studies in Ancient Art and Civilization* 17 (2013), pp.113-120.

83 E.g. Gerald P. Schaus, 'The Beginning of Greek Polychrome Painting', *The Journal of Hellenic Studies* 108 (1988), p.109; Alessandra Tempesta, *Le raffigurazioni mitologiche sulla ceramica greco-orientale arcaica*, Rome, 1998; K. Ketterer, 'Funde aus Milet III. Ein Fikellurakessel aus dem Aphroditeheiligtum', *Archäologischer Anzeiger* 1 (1999), pp.213-221; Lemos, 'Aspects', cit. pp.378-379; Michael Kerschner, 'East Greek Pottery Workshops in the Seventh Century BC: tracing Regional Styles', in Xenia Charalambidou & Catherine Morgan (eds.), *Interpreting the Seventh Century BC Tradition and Innovation*, Oxford, 2017, pp.103-104; Bekir Özer, 'Monumental Painting and Late Archaic Vase Painting in Ionia', in Ersoy & Koparal, *Sages*, cit. pp.274-295.

comparable with mainland schools.⁸⁴ Here it is produced mostly until the third quarter of the sixth century (giving a terminus of c.525), with the bulk of surviving examples deriving from Egypt (Naucratis and Tell Defenneh).⁸⁵ Although comparable with Attic and Corinthian schools, 'East Greek' black-figure cannot be said to imitate them directly, and may have even influenced Athenian art of the second half of the sixth century.⁸⁶

A cup fragment produced in Old Smyrna, dated to the second half of the seventh century,⁸⁷ is comparable with early examples of Middle Protoattic vases (c.675-650).⁸⁸ Two hoplites stand in single file, both equipped with Ionic(?) helmets (further components of armament are lost), carrying round hoplite shields decorated with blazons and pairs of twin spears.⁸⁹ Both spears are of the same length, aligning with the finds of spear heads from votive deposits (above), and may imply one was used for throwing. If so, the depiction of two hoplites here thus suggests seventh century Ionian hoplites engaged in both missile warfare and close-quarters combat, resembling hoplites in seventh century Protocorin-

84 Lemos, 'Aspects', cit. pp.378-379; cf. Boardman, *Early Greek*, cit. p.141; Bekier Özer, 'Clazomenian and Related Black-Figure Pottery from Klazomenai: Preliminary Observations', in Aliko Moustaka, Eudokia Skarlatidou, Maria-Christina Tzannes, & Yaşar Ersoy (eds.), *Klazomenai, Teos and Abdera: Metropoleis and Colony, Proceedings of the International Symposium Held at the Archaeological Museum of Abdera, 20-21 October 2001*, Thessaloniki, 2004, pp.199-219; Udo Schlotzhauer & Alexandra Villing, 'East Greek Pottery from Naukratis: The Current State of Research', in Villing & Schlotzhauer, *Naukratis*, cit. pp.56-58.

85 E.g. Boardman, *Early Greek*, cit. p.148.

86 E.g. Boardman, *East Greek*, cit. p.150; Boardman, *Greek Pottery*, cit. pp.49-50 with references; cf. John M. Cook, *Greeks in Ionia and the East*, London, 1962, pp.107-110. See also Anja Slawisch, 'Figures in Motion: An Ionian Perspective on the Severe Style', *The Annual of the British School at Athens* 114 (2019), pp.145-165 on Ionian and Athenian sculpture.

87 Robert M. Cook & Pierre Dupont, *East Greek Pottery*, London, 1998, pp.29-31; Stravos A. Paspalas, 'Old Smyrna: a window onto the seventh-century painted wares from the Anglo-Turkish excavations (1948-1951)', in Charalambidou & Morgan, *Interpreting*, cit. pp.120-121.

88 George M.A. Hanfmann, 'Ionia, leader or follower?', *Harvard Studies in Classical Philology* 61 (1953), p.20; Chrysoula Kardara, *Ποδιακή Ἀγγειογραφία*, Athens, 1963, p.48; John N. Coldstream, *Greek Geometric Pottery: A Survey of Ten Local Styles and their Chronology* (2nd edn.), Exeter, 2008, p.297.

89 Ekrem Akurgal, 'Bayraklı. Erster vorläufiger Bericht über die Ausgrabungen in Alt-Smyrna', *Zeitschrift der Philosophischen Fakultät der Universität Ankara* 8 (1950), p.64 pl.11a; Kardara, *Ποδιακή Ἀγγειογραφία*, cit. p.50 fig.31; Paspalas, *Old Smyrna*, cit. p.119 fig.13.8.

thian iconography (namely on the Chigi vase).⁹⁰ Four further fragments belonging to the same skyphos crater from İzmir (c.640-630) also depict hoplites.⁹¹ One fragment shows a hoplite warrior wearing greaves and wielding a hoplite shield. The blazon is lost, but a zig-zag pattern can be observed around the shields rim. The warrior holds a raised spear and likely wears an ionic helmet (only the cheek piece remains). A second fragment confirms this, showing the head of separate warrior wearing an Ionic helmet, wielding a round shield (the very top of the rim is visible) and raised spear in reflection of the first warrior. Definite conclusions regarding formation cannot be drawn since the crater is very fragmented. The raised spears may suggest a battle formation, but the presence of a chariot accompanying the warriors may equally imply this is a procession.⁹²

These few examples, although very fragmented, suggest local Ionian artists were familiar with the hoplite panoply (with a local variation in the helmet) by the second half of the seventh century. Unlike the Protocorinthian vases attributable to the Macmillan painter, surviving Ionian iconography does not feature elegant battle scenes that offer insight into how early Ionian hoplites fought. The presence of dual spears on the Smyrian cup may suggest javelin throwing occurred alongside close-quarter fighting, something that finds support in local elegiac poetry produced around the same time (below). Generally, however, the very fragmented remains of local seventh century vases make certain conclusions difficult.

Beyond seventh century vase painting, an Ionian bronze sheet dated to the last quarter of the seventh century from Samos shows Heracles fighting the three headed Geryon.⁹³ A near contemporary of this sheet (and likely a product of the

90 Above ns.78; 81. A second example from Old Smyrna (Pithos, late seventh century) depicts a lion hunt (Özer, 'Klazomenai', cit. p.288 fig.15b). Although a hunt, the human figures are depicted as hoplites. They wear greaves and Ionic helmets, wielding single spears (being thrust-ed into the lion) and large round hoplite shields decorated with blazons.

91 Ekrem Akurgal, *Eski İzmir 1: Yerleşme Katları ve Athena Tapınağı*, Ankara, 1993, pl.109a.

92 cf. Özer, 'Klazomenai', cit. p.289.

93 Vathy B2518; see e.g. Philippe Brize, 'Samos und Stesichoros: Zu einem Frueharchaischen Bronzeblech', *Mitteilungen des Deutschen Archaeologischen Instituts, Athenische Abteilung* 100 (1985), pp.53-90; Held, 'Ionischen Helm', cit. pp.148-150.

same workshop), an ivory relief also from Samos,⁹⁴ likewise depicts the mythical monster. Although scenes of myth, scholarship has noted the monster in both scenes wears the Ionic helmet.⁹⁵ The Geryon on the bronze sheet also wields three round hoplite shields (covering its torsos) and a single thrusting spear. Similarly, the Geryon in the ivory relief wears greaves and ionic helmet, wielding round hoplite shields but here holding three raised spears in preparation to thrust (three separate spear butts jut out from behind each of the three heads). Neither depiction informs anything on how Ionic hoplites fought (since they are scenes of myth), but do assert the knowledge of the hoplite panoply (consisting of spear, round shield, greave, and local Ionic helmet) to Ionian (or at the very least Samian) artists by the last quarter of the seventh century, especially since it is likely artists based depictions of equipment in mythical scenes on their observations of contemporary reality (further below).⁹⁶ This is supported by an additional bronze sheet dating slightly earlier (c.630) displaying the death of Caeneus.⁹⁷ Here Caeneus (the Lapith) is depicted in the hoplite panoply (Ionic helmet, bell corselet, greaves) with two swords, between two centaurs attacking him with trees.⁹⁸ Although uncovered from Olympia, the sheet has been recognised as a product of Ionian workmanship, likely from a near-contemporary workshop to the Geryon bronze sheet.⁹⁹ Taken together, the bronze and ivory sheets confirm the common reality of the hoplite panoply as a recognisable cul-

94 Vathy E127.

95 E.g. Held, 'Ionischen Helm', cit. p.149.

96 Note also in sixth century Athenian vase painting, the Geryon is likewise presented in the full contemporary hoplite panoply (e.g. Louvre MNC 495; F53.1; MN 40; N 3506; F 55).

97 Olympia BE 11a; e.g. Brize, *Samos*, cit. OL 2, pls.20.1; 24.2; John M. Padgett, *The Centaur's Smile: The Human Animal in Early Greek Art*, New Haven, 2003, pp.15-16; Robert Fowler, *Early Greek Mythography. Vol. II: Commentary*, Oxford, 2013, p.159 n.17; Jan N. Bremmer, 'A Transsexual in Archaic Greece: The Case of Kaineus', in Dietrich Boschung, Alan Shapiro & Frank Wascheck (eds.), *Bodies in Transition: Dissolving the Boundaries of Embodied Knowledge*, Paderborn, 2015, p.275 fig.1; Nikoloz Shamugia, 'A Bronze Relief with Caeneus and Centaurs from Olympia', *Harvard Studies in Classical Philology* 109: 31-61, with bibliography in 33 n.8.

98 E.g. Padgett, *Centaur's Smile*, cit. p15. The death of Caeneus at hands of centaurs was to become a favourite subject of Greek art, with this example being its first appearance (generally e.g. Padgett, *Centaur's Smile*, cit. pp.15-16; Fowler, *Early Greek*, cit. pp.159-162; Shamugia, *Bronze Relief*, cit.). The subject was to not reappear in Greek art until its depiction on the famous François Vase (c.570; Florence 4209).

99 E.g. Brize, 'Samos', cit. pp.77-83; cf. Shamugia, 'Bronze Relief', cit.

tural phenomenon in Ionia by the late seventh century.

Plastic vases produced in nearby (Dorian) Rhodes in the shape of warrior heads offer some of the clearest surviving representations of the Ionic helmet.¹⁰⁰ These vases date from the late seventh century to the mid-sixth.¹⁰¹ Sixth century black figure pottery produced in Chios in the so-called 'grand style' also depicts this style of helmet, although with some variation (namely the 'Chian' type).¹⁰² Certain Chian pottery fragments, all from Naucratis, also show hoplite equipment and battle scenes, including duels between two hoplites.¹⁰³ The Pitane chalice (c.560), the largest of the Chian chalices, depicts two hoplites duelling flanked by two female figures.¹⁰⁴ The warriors are equipped with hoplite shields, thrusting spears and the right-hand hoplite is helmeted. Although possibly a mythical depiction of Achilles and Memnon,¹⁰⁵ this 'heroic' reflection does not justify its dismissal as entirely fictional but likely does, in some way, reflect the contemporary reality of Ionian hoplites, especially since warriors are shown in the hoplite panoply (below). Further, an additional fragment of a North Ionian black-figure vessel, also from Naucratis (c.550), depicts the legs of two warriors, both wearing greaves and equipped with spears. The very edge of a

100 E.g. Baltimore 48.2126; Cambridge GR.1.1980; Columbia 79.79; Hannover 703; New York 41.162.74; Oxford AN1874.295; AN1879.137; AN1879.138; AN1946.91; AN1966.1810; Paris 395; Snodgrass, *Armour and Weapons*, cit. p.32; ibid. *Arms and Armour*, cit. p.66 with n.23; Ducat, *Plastiques*, cit. pp.20-23; Edrich, 'Ionische Helm', cit.; Biers, 'Helmeted Ionian', cit. Note also a faience helmeted-head aryballos from Egypt (c.550) depicting the Ionic variant (Amsterdam 980). For an early Corinthian copy (c.640-625), see Dirk Piekarski, *Corpus vasorum antiquorum. Deutschland, fasc. 100, Bonn, Akademisches Kunstmuseum, fasc. 4: Geometrische und orientalisierende keramik*, München, pp.86-87 with fig.1; pl.59; suppl.22. For the Ionic helmet in 'East Greek' art generally, see the early catalogue in Kukahn, *Griechische Helm*, cit. pp.19-20; 43-45.

101 Biers, *Helmeted Ionian*, cit. pp.3-4.

102 Lemos, *Chios*, cit. p.99 with nos.800-801; 105 fig.58.

103 Lemos, *Chios*, cit. nos. 698; 705; 710; 736; 740; 761; 762; 767; 801; Cook & Dupont, *East Greek*, cit. pp.71-72 with fig.9.1; cf. Lemos, *Chios*, cit. pp.98-99 with fig.53; nos.775; 789; Tyler J. Smith, 'East Greek Pottery in the Collection of the British School at Athens', *The Annual of the British School at Athens* 104 (2009), pp.353-354 no.17. See also Lemos, *Chios*, cit. nos.708; 724; 732; 758; 765; 767. For further on Chian pottery see Cook & Dupont, *East Greek*, cit. pp.46-51; ch.9; Boardman, *Early Greek*, cit. pp.144-146 with bibliography.

104 Lemos, *Chios*, cit. p.284 no.801; Anna A. Lemos, 'The Trojan Cycle in the Preclassical Imagery of East Greece', *Archaiognosia* 10 (1999), pp.30-34 fig.6, pls.3b; 4; ibid. 'Aspects', cit. p.385 fig.270.

105 E.g. Lemos, 'Aspects', cit. p.385.

round shield may also be visible.¹⁰⁶ One fragment¹⁰⁷ is comparable with the Euphorbos plate (c.620-600, fig.2) produced in Dorian Cos (and uncovered from Camirus, Rhodes), that shows Menelaus and Hector duelling over the body of Euphorbos¹⁰⁸ but in the hoplite panoply with both Ionic (Menelaus; Euphorbos) and Corinthian (Hector) helmet types (so an image that is not congruent with the *Iliad*, since warriors are shown in the local contemporary panoply).¹⁰⁹ Hoplitae on the terracotta plaques from Pazarlı (Phrygia) are likewise depicted with the Ionic variant,¹¹⁰ suggesting the spread and adoption of the hoplite panoply in the East, with the helmet serving as the characteristic of this 'Eastern' hoplite.¹¹¹

A similar battle scene is depicted on a Clazomenian black-figure neck-amphora dated to c.530 and attributed to the Petrie painter (fig.3).¹¹² Here two hoplitae engage in a duel, the one on the left supported by an archer wielding a composite bow and wearing a high cap. Both hoplitae wield the round hoplite shield (the *porpax* and *antilabe* are viewable on the left, the right is decorat-

106 London AshmLoan.95; see also A.1795.

107 Lemos, *Chios*, cit. no.761.

108 Hom. *Il.* 17.70-89.

109 London 1860.4-4.1; generally e.g. Gudrumn Ahlberg-Cornell, *Myth and Epos in Early Greek Art: Representations and Interpretation*, Jonsæter, 1992, p.65 no.42; Elena Walter-Karydi, 'Nothing to do with Crete: Towards Defining the Character of East Dorian Art', in Vassos Karageorghis & Nikolaos Chr. Stampolidis (eds.), *Eastern Mediterranean: Cyprus, Dodecanese, Crete, 16th-6th Centuries B.C. Proceedings of the International Symposium, Rethymnon 13-16 May 1997*, Athens, 1998, p.292; Dyfri Williams, *Greek Vases* (2nd edn.), London, 1999, pp.43-44 fig.31; Lemos, 'Aspects', cit. p.384; Regina Attula, 'Archaic Greek Plates from the Apollo Sanctuary at Emecik, Knidia: Results and Questions Concerning Dorian Pottery Production', in Villing & Schlotzhauer, *Naukratis*, cit. p.86.

110 Ankara 45; for this frieze see e.g. Cook, *Ionia*, cit. p.58 with fig.14; Åke Åkerström, *Die architektonischen Terrakotten Kleinasiens*, Lund, 1966, p.176; Boardman, *Greeks Overseas*, cit. p.92 with bibliography in 289 n.237; Lâtif Summerer, 'Hoplites in Pants: Contextualising the Warrior-Friezes from Pazarlı', in Emine Sökmen & Andreas Schachner (eds.), *Understanding transformations: exploring the Black Sea region and Northern Central Anatolia in antiquity*, Istanbul, 2021, pp.21-68; Hurwit, 'Chigi Vase', cit. offers an additional comparison with the Chigi vase.

111 Snodgrass, *Armour and Weapons*, cit. p.32; *ibid.* *Arms and Armour*, cit. p.66 with n.23; see also Josho Brouwers, *Henchmen of Ares: Warriors and Warfare in Early Greece*, Rotterdam, 2013; *ibid.* 'Anatolian Roots of Archaic Greek Warfare', Konijnendijk, Kuciewicz & Lloyd, *Beyond the Phalanx*, cit. pp.64-82 for the spread of the hoplite panoply in the East, what he terms a shared 'Aegean-Anatolian koine' in military practice. Cf. Greaves, *Land of Ionia*, cit. pp.145-170.

112 London 1888.2-8.112.a-b; e.g. Held, 'Ionischen Helm', cit. p.152 fig.11.

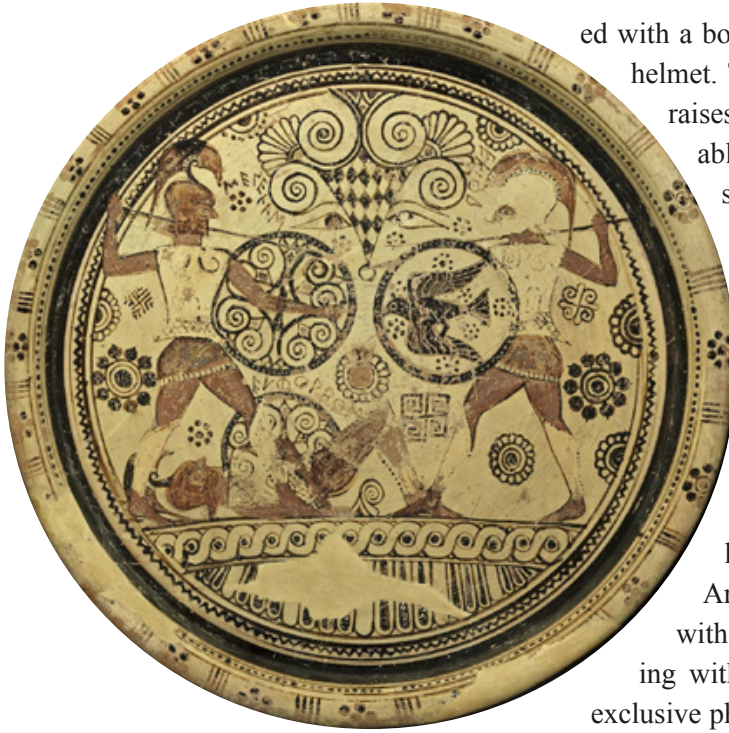


Figure 2 - Menelaus and Hector duelling over the body of Euphorbos. Rhodian plate (c.620-600). London 1860.4-4.1. © The Trustees of the British Museum. Shared under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) licence.

the supporting archer is male (and not an Amazon).¹¹⁴ Two additional fragments (both dated to the second half of the sixth century) produced in Clazomenae also depict hoplites, but the overall context has been lost.¹¹⁵

ed with a boar) and wear the Ionic helmet. The hoplite on the left raises his right arm, presumably wielding a thrusting spear (now lost).¹¹³ The scene bears a close resemblance to battles depicted on the Clazomenian sarcophagi (below) and may suggest, since an archer is shown battling amongst hoplites, an 'openness' of Archaic Greek warfare, with hoplites not yet fighting within the context of the exclusive phalanx but still in more fluid formations alongside other troop types. Although (admittedly) fragmentary, there is nothing here to indicate the fragment depicts a scene from myth, especially since

¹¹³ A similar scene is depicted on a vase also produced in Clazomenae (c.550-525), where an archer (right) supports a hoplite(?), although much is lost (London 1886.4-1.1257; e.g. Robert M. Cook, 'A List of Clazomenian Pottery', *The Annual of the British School at Athens* 47 (1952), p.139 no.20). The archer is identifiable as an Amazon.

¹¹⁴ See Robert M. Cook, *Corpus Vasorum Antiquorum: Great Britain fasc. 13, British Museum fasc. 8*, London, 1954, pp.15-17 pls.3.3; 6.10.

¹¹⁵ Cambridge GR.44b-c.1899; GR.119.1899; e.g. Winifried Lamb, *Corpus Vasorum Antiquorum: Great Britain fasc. 11, Cambridge, Fitzwilliam Museum fasc. 2*, London, 1936, pp.38-39 pl.19.13-14.

Finally, there is the significant corpus of painted battle scenes on the so-called ‘Clazomenian Sarcophagi’ (fig.4).¹¹⁶ Cook dated the onset of those decorated with figures to c.530, with the bulk of military scenes (on his so-called ‘Albertinum group’) to the fifth century.¹¹⁷ More recent research undertaken by Turkish scholarship has sufficiently challenged this seemingly late dating. Excavation has pushed back the onset of figural decoration on the sarcophagi a full century (beginning from c.630),¹¹⁸ and the work of Zeren-Hasdağlı has demonstrated that the scenes (including those of hoplites) decorating Cook’s later Albertinum group instead belong to the late sixth and very early



Figure 3 - Hoplites supported by an archer. Clazomenian black-figure neck-amphora (c.530). London 1888.2-8.112a. © The Trustees of the British Museum. Shared under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0)

¹¹⁶ Cook, *Sarcophagi*, cit., whose catalogue remains the authority. See also, however, the thesis of Süheyla Melike Zeren-Hasdağlı, *Albertinum Grubu ve Çevresindeki Klazomenai Lahitleri*, PhD Thesis, İzmir: Ege University

¹¹⁷ Cook, *Sarcophagi*, cit.

¹¹⁸ See Güven Bakır & Yaşar Ersoy, ‘1997 Yılı Klazomenai Çalışmaları’, *Kazı Sonuçları Toplantısı* 20.2 (1998), pp.67-76; Güven Bakır, Yaşar Ersoy, Bilge Hürmüzlü & Neziha Aytaçlar, İlkan Hasdağlı, ‘1998 Yılı Klazomenai Çalışmaları’, *Kazı Sonuçları Toplantısı* 21.2 (1999), pp.47-56; Bilge Hürmüzlü, ‘Burial Grounds at Klazomenai: Geometric through Hellenistic Periods’, in Alikı Moustaka, Eudokia Skarlatidou, Maria-Christina Tzannes & Yaşar Ersoy (eds.), *Klazomenai, Teos and Abdera: Metropoleis and Colony, Proceedings of the International Symposium Held at the Archaeological Museum of Abdera, 20-21 October 2001*, Thessaloniki, 2004a, pp.83-85; *ibid.* ‘A New Type of Clazomenian Sarcophagus: The Alteration of the Burial Customs in Clazomenae’, in Renate Bol & Detlev Kreikenbom (hg.), *Sepulkral- und Totfindenkmäler östlicher Mittelmeergebiete (7. Jh. v. - 1. Jh. n. Chr.) Kulturbegegnungen im Spannungsfeld von Akzeptanz und Resistenz. Akten des Internationalen Symposiums vom 01-03 November 2001 in Mainz, Paderborn, Möhnsee, 2004b*, pp.195-198.

fifth centuries (so the close of the Archaic period).¹¹⁹ A problem, however, with the study of the battle scenes adorning the sarcophagi is that they could be labelled ‘mythical’ – or rather reflecting ‘heroic fiction’ – due to the presence of winged figures, chariots, and hoplites battling out of formation, often in single duels or small groups (at times over the bodies of fallen warriors). One could thus argue they offer nothing to the study of the contemporary reality of warfare as they reflect the fighting expected of Homeric heroes.¹²⁰ Indeed, this has been the fate of both the sarcophagi and nearly all battle scenes seen in Archaic art of the Greek mainland, with scholarship commonly arguing such scenes display either customs of earlier warfare that entail some degree of fiction (‘archaising’) or scenes that belong purely to the realm of heroic fiction (‘heroising’).¹²¹ In contrast to these long held assumptions, recent revisionism of both early Greek

119 Zeren-Hasdağlı, *Albertinum Grubu*, cit., esp. pp.350-366.

120 So e.g. Elfi Kirchner, ‘Zum Bildprogramm Klazomenischer Sarkophage’, *Jahrbuch des Deutschen Archäologischen Instituts* 102 (1987), pp.119-161; Greaves, *Land of Ionia*, cit. p.153; Nasso Papalexandrou, ‘A Clazomenian Sarcophagus in the Princeton University Art Museum’, *Record of the Art Museum, Princeton University* 69 (2010), pp.4-21; Elena R. Asandocae, ‘Fantastic Representation on Clazomenian Sarcophagi: The case of hybrid representations (Mischwesen – centaurs, gorgoneion, griffin, satyrs, seirines, sphinxes) and their role’, in Valeriu Sîrbu, Miloš Jevtić, Katarina Dmitrović & Marija Ljuština (eds.), *Funerary Practices During the Bronze and Iron Ages in Central and Southeast Europe: Proceedings of the 14th International Colloquium of Funerary Archaeology in Čačak, Serbia, 24th – 27th September 2015*, Belgrade, 2016, pp.209-224; Maria N. Nenakhova, ‘Clazomenian Sarcophagus from the British Museum: The Semantic Aspects of the Decoration and Shape’, in Anna V. Zakharova, Svetlana V. Maltseva & Ekaterina Staniukovich-Denisova (eds.), *Actual Problems of Theory and History of Art: Collection of articles* (vol. 11), St. Petersburg, 2021, 38-46.

121 E.g. Lorimer, *Hoplite Phalanx*, cit. p.89; *ibid.* *Homer and the Monuments*, London, 1950, p.156; Thomas B.L. Webster, ‘Homer and Attic Geometric Vases’, *The Annual of the British School at Athens* 50 (1955), pp.38-50; John Carter, ‘The Beginning of Narrative Art in the Greek Geometric Period’, *The Annual of the British School at Athens* 67 (1972), pp.25-58; esp. 56; Peter A.L. Greenhalgh, *Early Greek warfare: horsemen and chariots in the Homeric and Archaic Ages*, Cambridge, 1973, pp.1-6; Gloria F. Pinney, ‘Achilles Lord of Scythia’, in Warren G. Moon (ed.), *Ancient Greek Art and Iconography*, Madison, 1983, pp.127-146; Jefferey M. Hurwit, ‘The Dipylon shield once more’, *Classical Antiquity* 4.2 (1965), pp.121-126; John Boardman, ‘The sixth-century potters and painters of Athens and their public’, in Tore Rasmussen & Nicholas Spivey (eds.), *Looking at Greek Vases*, Cambridge, 1991, pp.79-102; Clemente Marconi, ‘Images for a warrior: On a group of Athenian vases and their public’, in Clemente Marconi (ed.), *Greek Vases: Images, Contexts and Controversies*, Leiden, 2004, pp. 27-40; Robin Osborne, ‘Images of a Warrior: On a Group of Athenian Vases and Their Public’, in Marconi, *Greek Vases*, cit. pp.41-54; *ibid.* *The Transformation of Athens: Painted Pottery and the Creation of Classical Greece*, Princeton, 2018, pp.94-97.

warfare and the study of Greek iconography has sought to challenge this view, demonstrating that such scenes – notably single duels between opposing hoplites – are not entirely removed from the ‘real’, but reflect a version of contemporary reality for Archaic viewers.¹²² This likewise applies to the significant number of military scenes on the Clazomenian sarcophagi, which display fighting in the same way as Attic vase painting.¹²³ Here Ionian (or at least Clazomenian) hoplites are depicted battling in single duels or small groups against enemy hoplites, archers and/or cavalry, at times over the body of fallen warriors.¹²⁴ There is rarely any signifier the scene was designed to be interpreted as ‘heroic’, with hoplites remaining entirely anonymous, and depictions of winged figures and/or chariots are rare. These anonymous hoplites are depicted in the contemporary panoply, now with a single thrusting spear (instead of two) and the round shield with an attached apron, a local innovation to protect the groin and legs better from missiles. Indeed, it seems local artists sourced inspiration for their work to some extent from the world around them. This would explain why the mythical scenes discussed above depict figures (or monsters) in the contemporary hoplite panoply. So too does a fragment of a hydria from Clazomenae (c.540) depict Achilles mounting a chariot (tied to which is the body of Hector) equipped with

122 See Tonio Hölscher, ‘Images of War in Greece and Rome: Between Military Practice, Public Memory, and Cultural Symbolism’, *The Journal of Roman Studies* 93 (2003), pp.3-5; Wawrzyniec Miścicki, ‘Thoughts on changes in Greek warfare during the Archaic period with reference to the representation of the phalanx in contemporary art’, *Studies in Ancient Art and Civilization* 16 (2012), pp.85-104; Fernando Echeverría, ‘Heroic Fiction, Combat Scenes, and the Scholarly Reconstruction of Archaic Greek Warfare’, *The Bulletin of the Institute of Classical Studies* 58 (2015), pp.33-60; Cezary Kuciewicz, *The Treatment of the War Dead in Archaic Athens: An Ancestral Custom*, London & New York, 2021, pp.79-100, all with references.

123 Cf. Cook, *Sarcophagi*, cit.; Sven Ahrens & Anne Håbu, ‘En klazomensk sarkofag i Oslo’, *Viking* 63 (2005), pp.151-164.

124 ‘Hoplites on the Clazomenian sarcophagi (after Cook, *Sarcophagi*, cit., and Kirchner, ‘Bildprogramm’, cit., now with the addition of Zeren-Hasdağlı, *Albertinum Grubu*, cit.: cat. nos. E11; E12; E13; G75): *hoplites in combat* - ‘duels’ between two hoplites (B8; C4; E6; G6; G18A; G19; G20; G21A; G31); hoplite ‘duel’ over a fallen warrior (G17; G21; G22; G23; G24; G28); two hoplites against a single enemy archer (E11; G13; G15; G16; G27; G28); hoplites threatening a woman (G29); battles between small groups of hoplites (G1; G14; G15; G16; G17; G75; J8); hoplites against cavalry (B10; G13; G14; J13); and cavalry against cavalry (G11; G12). *Hoplites out of combat* - spectators (E12; G28; G30; G31); charioteers (E6; E13; G1; G6; G9; G23; G31; cf. G34); warrior departure (G9; G10); handling horses (G1; G9; G15A; G18; G18A; G19; G35; see also G4 (winged hoplite)); dancing (G1 (inside)); amongst identifiable mythological scenes (G7; G8).’.



Figure 4 – Headpiece fragment of a Clazomenian terracotta sarcophagus (B8 after Cook). London 1886.3-26.1. A pair of hoplites are depicted advancing to the right. Note the Ionic and Corinthian helmet and attached shield apron. © The Trustees of the British Museum. Shared under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International.

a single thrusting spear and hoplite shield with an apron.¹²⁵ It is unlikely these ‘duel’ scenes were intended to be taken literally – even in Homer duels between heroes occur amongst the broader *mêlée*¹²⁶ – but rather offer a ‘zooming in’ of mass fighting, reflecting the narrative element used in earlier epic poetry (here translated to art), possibly to emphasise personal exploit and/or the experience of warfare to local audiences.¹²⁷ A single ‘duel’ tells us little of how broader massed fighting occurred (other than equipment used and how it was held), but the continued depictions of fighting over fallen warriors here and on Attic vases of the sixth century may well imply that Archaic hoplite warfare – both in Ionia and on the Greek mainland – was fought in a manner closer to that detailed in Homer than the close-ordered phalanx.¹²⁸

Elegy

Concerning literary evidence for early Ionian warfare, Ionia and Aeolis to the North offer rich sources of early lyric poetry.¹²⁹ Those that hailed from Ionia and sang of warfare, namely Callinus of Ephesus (c.675-650) and Mimnermus of Smyrna (c.632-629), suggest the key role of both the organisation of local warfare and those that participated within it belonged to the elite.¹³⁰ The martial elegies of Callinus and Mimnermus have long been recognised by scholarship, but some have, like with painted battle scenes, dismissed them as purely Homeric and not a reflection of the contemporary reality of warfare.¹³¹ While I will not

125 Brussels M831; Robert Zahn, ‘Zwei Vasenscherben aus Klazomenai’, *Athenische Mitteilungen* 23 (1898), pp.38-79; Cook, ‘Clazomenian Pottery’, cit. p.139 no.19.

126 A view established in the seminal work of Joachim Lataz, *Kampfparänese, Kampfdarstellung und Kampfwirklichkeit in der Ilias, bei Kallinos und Tyrtaios*, München, 1977.

127 Hölscher, ‘Images’, cit. p.5; Echeverría, ‘Heroic’, cit. pp.48-50.

128 See Kucewicz, *Treatment*, cit. pp.79-100 with references; cf. van Wees, ‘Development’, cit. p.155.

129 E.g. Joshua P. Nudell, *Accustomed to Obedience? Classical Ionia and the Aegean World, 480-294 BCE*, Ann Arbor, 2023, p.9 n.34 with references.

130 Callin. fr.1 West; e.g. Crielaard, ‘Ionians’, cit. pp.57-60; Jan Paul Crielaard, ‘Review: *The Land of Ionia. Society and Economy in the Archaic Period* by Alan M. Greaves’, *Gnomon* 84 (2012), pp.121-122; generally George L. Huxley, *The Early Ionians*, London, 1966, pp.102-107.

131 So William K. Prichett, *The Greek State at War. Part IV*, Berkeley, 1985, pp.34-36.

deny the close parallels in language between the two with the epics of Homer,¹³² to outright dismiss them on this basis seems unreasonable, especially considering the likelihood that even Homeric battle scenes reflected, to some extent, the reality of warfare at the time they were written down.¹³³ Following the dismissal of Callinus and Mimnermus, one would likewise have to dismiss the more often discussed Tyrtaeus of Sparta (c.640) since he is arguably as ‘Homeric’ as Callinus.¹³⁴ Scholarship has also noted the differences between Callinus and Homeric ideology: although both do focus on obtaining honour (via military action), Callinus situates this phenomenon within the context of the community, championing the defence ones homeland and family (i.e. the *polis*) rather than fighting for personal fame.¹³⁵ The martial elegies of the two Ionian poets will thus, much like as has been done with Tyrtaeus, be viewed here as a reflecting the reality of warfare for Ionian warriors of the seventh century.

The military exhortations of both Callinus and Mimnermus share close similarity with those of Tyrtaeus, despite being on opposite sides of the Aegean.¹³⁶ This suggests that, alongside local iconography (above), Ionian elegy reflected the lived experience of its composers and early Ionian *poleis* had by this point (the second half of the seventh century) adopted very similar warfare practices to those of the Greek mainland.¹³⁷ All three poets composed elegies in the seventh century to encourage fellow citizens to fight to defend the local community against invasion, offering a way for young (elite) warriors to obtain glory whilst

132 E.g. John P. Barron & Patricia E. Easterling, ‘Early Greek elegy: Callinus, Tyrtaeus, Mimnermus’, in Patricia E. Easterling & Bernard M.W. Knox (eds.), *Cambridge History of Classical Literature, vol.1: Greek Literature*, Cambridge, 1985, pp.129-130; 135.

133 Hans van Wees, ‘Kings in combat: battles and heroes in the *Iliad*’, *The Classical Quarterly* 38 (1988), pp.10-12; *ibid.* *Status Warriors: War, Violence, and Society in Homer and History*, Amsterdam, 1992, pp.31; 78-89; 274-276; *ibid.* ‘The Homeric way of war: the *Iliad* and the hoplite phalanx (I) and (II)’, *Greece & Rome* 41 (1994), pp.1-18; 131-155; *ibid.* ‘Politics and the battlefield: Ideology in Greek warfare’, in Anton Powell (ed.), *The Greek World*, London, 1995, pp.166-168.

134 E.g. Barron & Easterling, ‘Greek Elegy’, *cit.* p.130-133; *contra.* e.g. Pritchett, *War IV*, *cit.* pp.37-41.

135 Esp. fr.1.18-21 West; José Vela-Tejada, ‘War in Greek Poetry’, in Heckel, Naiden, Garvin & Vanderspoel, *A Companion to Greek Warfare*, *cit.* p.410; Krystyna Bartol, ‘Elegy’, in Laura Swift (ed.), *A Companion to Greek Lyric*, Hoboken NJ, 2022, p.225.

136 Observed by e.g. Martin L. West, *Greek Lyric Poetry*, Oxford, 1993, p.xi.

137 Cf. Crieelard, ‘Review’, *cit.* p.122.

averting shame.¹³⁸ Callinus, one of the oldest surviving examples of an elegiac poet, composed his works in the second quarter of the seventh century.¹³⁹ Only one surviving fragment is of any length and is the earliest example of martial elegy.¹⁴⁰ They were composed to be sung at the symposia, with his exhortations being addressed to specific audience (here the Ephesian youth).¹⁴¹ It is notable that the *Suda*¹⁴² states Tyrtaeus, whose martial elegies date after those of Callinus, was of Laconian *or* Milesian origin, which some have supported.¹⁴³ It would be interesting to speculate that, if he was originally Ionian, Tyrtaeus learnt his methods of infantry warfare in Ionia before travelling to Sparta or, considering the lively culture of poetry in the region, that perhaps he derived from Ionia and was commissioned to write about early Spartan conflicts. This is, of course, entirely speculative. The *Suda* is of a much later date and of an unknown author, and there is little else that supports his Ionian origin. A separate tradition labels him Athenian,¹⁴⁴ although this was likely a fifth century invention.¹⁴⁵ Bartol may be correct in asserting the poet was of Laconian origin, with the *Suda* naming Miletus to explain the Ionic forms of his poetry,¹⁴⁶ and Gerber has pointed out that Greek elegists used Ionic dialect (in reflection of Homer) for their poetry regardless of their birthplace.¹⁴⁷ Either way, both Callinus and Mimnermus composed martial elegies to be recited to elite sympotic groups, suggesting the military practices exhorted within them reflected, in some way, how local elite warriors fought.¹⁴⁸

138 E.g. Callin. frs.1;¹³⁸ 5a West; Mimn. fr.14 West; e.g. West, *Lyric*, cit. pp.xi-xii; Erman Gören, 'Poetry and Literary Dialect of the Ionians in the Archaic and Classical Periods', in Ersoy & Koparal, *Sages*, cit. p.192; esp. William R. Allan, *Greek Elegy and Iambus: A Selection*, Cambridge, 2019, pp.107-109.

139 Allan, *Elegy*, cit. p.106; Bartol, 'Elegy', cit. p.224.

140 Fr.1 West; see e.g. Snodgrass, *Arms and Armour*, cit. p.64.

141 Allan, *Elegy*, cit. p.106; Bartol, 'Elegy', cit. p.225.

142 4.610.5 Adler.

143 E.g. Gören, 'Poetry', cit. p.192.

144 Plat. *Laws* 629a-b; Paus. 4.15.6; supported by e.g. Rawlings, *Greeks at War*, cit. p.54.

145 See Douglas E. Gerber, *A Companion to the Greek Lyric Poets*, Leiden, 1997, p.102.

146 Bartol, 'Elegy', cit. p.225 n.32.

147 Gerber, *Companion*, cit. pp.102-103.

148 Crielaard, 'Review', cit. p.122. For Tyrtaeus and sympotic groups, see Ewen L. Bowie, 'Miles Ludens? The Problem of Martial Exhortation in Early Greek Lyric', in Oswyn Murray (ed.), *Symptotica: A Symposium on the Symposion*, Oxford, 1990, pp.224-228. It is not improbable,

Callinus exerts his (elite) audience is unprepared for war, rebuking them and desperately appealing for them to stop being idle in the face of a threatening enemy.¹⁴⁹ It is not defined as to who the enemy is, meaning they may face opposing forces of local hoplites, although a separate fragment does name invading Cimmerians.¹⁵⁰ This appeal is nevertheless direct. He reports the honour of men who die defending their land, children, and ‘wedded wife’ (κουριδίης τ’ ἀλόχου) against the enemy¹⁵¹ are honoured by the people,¹⁵² comparing the warrior to the strength of a tower, his single efforts worth those of many.¹⁵³ Importantly, the poet makes two references to missile warfare: he encourages warriors to hurl their spear even as they are killed¹⁵⁴ and describes the noise produced from the ‘thud’ or ‘crash’ (δοῦπος) of spears.¹⁵⁵ These two lines strongly suggest the prevalence of missile warfare amongst seventh century Ionian warriors. However, in the same passage, the poet describes the warrior charging straight ahead behind the cover of his shield (here ἀσπίδος) with spear raised as the opposing forces meet.¹⁵⁶ This seemingly contrasts with the exertions of missile throwing, instead more so reflecting the close-quarter fighting traditionally expected of the hoplite. The shield type is not described – likely because the audience was aware of what the poet was referring to – although the reference to getting ‘in behind’ it¹⁵⁷ may imply it was large. This, taken with the depictions of hoplite shields in seventh century art discussed above, suggests a likelihood the poet was referring to the large round ἀσπίς. Callinus’ exhortations thus strongly suggest he

however, that Tyrtaeus’ elegies were also sung on campaign during the poet’s lifetime, something that reportedly occurred later (Ath. 14.29; see also West, *Lyric*, cit. p.xii).

149 Fr.1 West; e.g. Barron & Easterling, ‘Greek Elegy’, cit. p.129.

150 Fr.5a, 4 West; e.g. Thomas B.L. Webster, *From Mycenae to Homer*, London, 1958, p.215; Snodgrass, *Arms and Armour*, cit. p.64; Vela-Tejada, ‘War’, cit. pp.408-409.

151 τιμῆν τε γάρ ἐστι καὶ ἀγλαὸν ἀνδρὶ μάχεσθαι γῆς πέρι καὶ παίδων κουριδίης τ’ ἀλόχου (fr.1.6-7 West).

152 Fr.1.18-21 West.

153 ὥσπερ γὰρ πύργον μιν ἐν ὀφθαλμοῖσιν ὀρώσιν: ἔρδει γὰρ πολλῶν ἄξια μούνος ἐών (fr.1.20-21 West; cf. Hom. *Od.* 11.556; Alc. fr.112.10 Campbell; Tyrt. fr.12 West; Crielaard, ‘Ionians’, cit. p.356).

154 καὶ τις ἀποθνήσκων ὕστατ’ ἀκοντισάτω (fr.1.5 West).

155 πολλὰκι δηϊότητα φυγῶν καὶ δοῦπον ἀκόντων (fr.1.14 West).

156 ἀλλὰ τις ἰθὺς ἴτω ἔγχος ἀνασχόμενος καὶ ὑπ’ ἀσπίδος ἄλκιμον ἦτορ ἔλσας τὸ πρῶτον μειγνυμένου πολέμου (fr.1.9-11 West).

157 καὶ ὑπ’ ἀσπίδος ἄλκιμον ἦτορ ἔλσας (fr.1.10-11 West).

lived during a period where missile throwing was combined with the use of the hoplite panoply.¹⁵⁸ Indeed, the description of both javelin and spear with shield, without any distinction between differing troop types, suggests the seventh century Ephesian hoplite wielded both. This matches the depiction of hoplites from Old Smyrna and Erythrai, as well as the early representations of hoplite warfare from Corinth (above), attesting a close resemblance in warfare practice between Ionian hoplites of the mid-seventh century and those that Tyrtaeus soon sung for in Sparta.¹⁵⁹ This ability to engage in both missile throwing and close-quarters combat suggests early Ionian hoplites fought in looser, open formations with enough room to manoeuvre.

Mimnermus of Smyrna, writing in the second half of the seventh century, also composed verses to rouse his fellow citizens to fight.¹⁶⁰ There is likewise some confusion as to his place of origin in sources, with Strabo¹⁶¹ reporting Colophon and Pausanias¹⁶² noting Smyrna, although most now agree on the latter.¹⁶³ In two fragments he likely harks back to a conflict between the Lydian King Gyges and people of Old Smyrna earlier in the seventh century.¹⁶⁴ Fragment 13a (West) appears of little help, since it reports an unidentified infantry, following the orders of an unidentified king, charging at the enemy behind (liter-

158 Cf. Lorimer, 'Hoplite Phalanx', cit. p.120; Webster, *Mycenae*, cit. p.215; Snodgrass, *Armour and Weapons*, cit. p.180-181; *ibid.* *Arms and Armour*, cit. p.64; Latacz, *Kampfparanase*, cit. pp.229-232.

159 For the exhortations of Tyrtaeus see e.g. Snodgrass, *Armour and Weapons*, cit. pp.181-182; *ibid.* *Arms and Armour*, cit. pp.61-67; Everett L. Wheeler, 'The General as Hoplite', in Hanson, *Hoplites*, cit. pp.130-131; van Wees, 'Development', cit. pp.149-154; *ibid.* *Myths and Realities*, cit. pp.172-174; Rawlings, *Greeks at War*, cit. pp.54-55; Allan, *Elegy*, cit. pp.107-109; contra. e.g. Pritchett, *War IV*, cit. pp.37-42; Schwartz, *Reinstating the Hoplite*, cit. pp.116-123; Vela-Tejada, *War*, cit. p.410 who, amongst others, read the existence of the phalanx in Tyrtaeus.

160 E.g. Suda 3.397.20 Adler; Allan, *Elegy*, cit. pp.120-121.

161 Strab. 14.1.14.

162 Paus. 9.29.4

163 E.g. Martin Drury, 'Appendix of Authors and Works', in Easterling & Knox, *Greek Literature*, cit. p.731; Allan, *Elegy*, cit. p.121; Bartol, 'Elegy', cit. p.227.

164 Frs.13a; 14 West; Paus. 9.29.4. Herodotus notes that Gyges attacked Miletus and captured Colophon (1.15; cf. Poly. *Strat.* 7.2; e.g. John M. Cook, 'On the Date of Alyattes' Sack of Smyrna', *The Annual of the British School at Athens* 80 (1980), pp.25-28; Nudell, *Classical Ionia*, cit. p.9). Alyattes was to later attack Old Smyrna and succeed in its destruction around 600 (West, *Lyric*, cit. p. xii).

ally ‘fenced’) the protection of their ‘hollow’ or ‘convex’ shields.¹⁶⁵ It is unclear who the king and infantry are, yet the fact a king (βασιλῆος) is mentioned suggests the passage refers to Lydian infantry under the command of a Lydian king (likely Gyges). In a separate fragment,¹⁶⁶ the poet portrays a worthy example of a local warrior from this earlier conflict to encourage contemporary citizens to stand against the current Lydian threat from King Alyattes.¹⁶⁷ This infantry warrior successfully routes the tight formation of the Lydian cavalry,¹⁶⁸ brandishing his spear as he darts through the missiles of the enemy πρόμαχοι (frontal fighters).¹⁶⁹ This warrior is viewed as exceptional in battle against the Lydians, with the audience being encouraged to match his spirit. Although sung as a reflection of Homeric battle exhortation,¹⁷⁰ Mimnermus’ focus is on a warrior of a previous generation and the poet states he learnt of his prowess from eyewitness accounts, suggesting its historicity.¹⁷¹ Mimnermus does not describe the arms and armour of the warrior (other than his spear), but the iconographic depictions of hoplites from Old Smyrna dated to the same time (above) strongly suggest local infantry, by the time Mimnermus was writing, had adopted the hoplite panoply. His ability to charge through the battle’s ‘bloody clash’¹⁷² against opposing cavalry strongly implies a freedom of movement beyond the restraints of the close-order phalanx.

The seventh century martial elegies of Callinus and Mimnermus together suggest that, by the mid-seventh century (if not earlier), elite Ionian warriors fought in formations that offered them enough room to manoeuvre and engage in missile throwing, something not possible within the close-ordered phalanx.¹⁷³

165 κούλαις ἀσπίσι φραξάμενοι (fr.13a West). Tyrtaeus (fr.19.7 West) uses the same phrase to describe attacking Dorian tribes in Sparta (noted by e.g. van Wees, ‘Egypt’, cit. p.335 n.135).

166 Fr.14 West.

167 See e.g. John M. Cook, ‘Old Smyrna, 1948-1951’, *The Annual of the British School at Athens* 53/54 (1958), p.28; Pritchett, *War IV*, cit. p.34; more recently Allan, *Elegy*, cit. pp.121; 128.

168 Λυδῶν ἱππομάχων πυκινὰς κλονέοντα φάλαγγας (fr.14.3 West).

169 πικρὰ βιαζόμενος δυσμενέων βέλεα (fr.14.8 West; cf. Pritchett, *War IV*, cit. p.34).

170 Esp. Hom. *Il.* 4.370-400; e.g. Cook, ‘Old Smyrna’, cit. p.28; cf. Pritchett, *War IV*, cit. pp.34-35.

171 Fr.14.2-3 West; so Allan, *Elegy*, cit. p.128.

172 σεύαιθ’ αἱματόεντος ἐν ὑσμίνῃ πολέμοιο (fr.14.7 West).

173 Alcaeus (frs.140; 410B West), writing in nearby Lesbos in the late seventh century, and Anacreon (fr.401 West), a sixth century Lyric poet from Teos, would both go on to note a pref-

Concluding Remarks

In sum, early seventh century votive deposits offer insight into the armament of early Ionian warriors, with finds including metal helmets, cuirasses, spear heads (in larger quantities than swords), *sauroters*, and, importantly, shield remains. These, plus the smaller round votive shield imitations, the silver figurine from Chios and the ointment vessel in the shape of a Corinthian helm (all dating to the early seventh century), strongly attest to the adoption and popularity of the hoplite panoply in early Ionia. Likewise, locally produced seventh century iconography, despite it being both very limited and fragmentary (even more so than what survives from the mainland), depicts the hoplite panoply in both ‘mythical’ and ‘real’ contexts. There is a lack of uniformity in the armament – namely over the number of spears – but depictions often present the hoplite panoply (Ionic helmet, bell corselet, chiton, greaves) with round hoplite shields. The early elegies of Callinus and Mimnermus, viewed alongside the contemporary iconography and votive deposits, suggests the early Ionian hoplite engaged in both missile warfare and close-quarter fighting with room to manoeuvre, thus reflecting revisionist readings of the martial elegies of their near contemporary Tyrtaeus on the opposite side of the Aegean. Later votive deposits from Branchidai-Didyma and the warrior statues and relief friezes from the Samian Heraion attest to the established normality of the Ionian hoplite by the sixth century, something that finds support in the impressive corpus of highly decorated Clazomenian sarcophagi.

Thus, to return to the aim outlined at the beginning of this chapter, archaeological (votive dedication, iconography) and literary (elegy) evidence from early Ionia strongly suggests that: (a) the hoplite panoply was adopted shortly after 700 in Ionia and soon spread across the region but with a local variation in helmet type and the eventual adoption of the shield apron; and (b) the early Ionian hoplite engaged in both missile throwing and close-quarter fighting, in turn requiring more open and fluid formations with enough room to manoeuvre than offered by the (Classical) phalanx. The surviving evidence from Ionia thus appears to support the ever-growing revisionist consensus that the hoplite phalanx

erence for the hoplite panoply amongst the Aeolian and Ionian elite (see also e.g. Crielaard, ‘Ionians’, cit. p.61).

– the closer-ordered exclusive formation of uniform hoplite infantry that would eventually become to tactical norm for hoplites of the Classical period – was not yet the tactical reality in the Archaic period, and suggests that the early Ionian hoplite fought in very much the same way as his mainland counterpart. Taken as a whole, the scant evidence of military practice from Archaic Ionia reflects rather than diverges from that of its mainland counterpart.

Still in the spotlight? Past, present and future approaches to the study of hoplitism

by ALESSANDRO CARLI

Introduction to a fierce historiographical controversy

The hoplites, once the real stars among Greek warriors and always central to academic textbooks for decades, have now become faded figures of a formerly glorious aristocracy of ancient warfare. In recent years of fruitful academic debate, scholarship has gradually changed its mainstream narrative, removing hoplites from the stage to bring to the fore the often-neglected walk-on role of soldiers such as light infantry and horsemen¹. Almost paradoxically, compared to some years ago, these often-deemed ancillary armed forces have become a very flexible force in the hands of generals and, as a non-negligible element, the most perilous enemy for the awkward, slow hoplites. This prevailing trend does not originate in the study of these troops *per se*; its roots lie in one of the two leading schools of interpretation of hoplitism: the so-called revisionism and related terms². Widely acknowledged among those familiar with the field, this perspective stands in direct opposition to the well-established re-

1 The title of collective monograph speaks for itself: Roel KONIJNENDIJK – Cezary KUCEWICZ – Matthew LLOYD (eds.), *Brill's Companion to Greek Land Warfare Beyond the Phalanx*, Brill, Leiden, 2021. Cf. specifically Roel KONIJNENDIJK, *Cavalry and the Character of Classical Warfare*, in Roel Konijnendijk – Cezary Kuciewicz – Matthew Lloyd (eds.), *Brill's Companion to Greek Land Warfare Beyond the Phalanx*, Brill, Leiden, 2021, pp. 169-204; Cezary KUCEWICZ – M. LLOYD – R. KONIJNENDIJK, «“Not Many Bows”? Light-Armed Fighters of the Tenth through Fourth Centuries», in Roel Konijnendijk – Cezary Kuciewicz – Matthew Lloyd (eds.), *Brill's Companion to Greek Land Warfare Beyond the Phalanx*, Brill, Leiden, 2021, pp. 205-235.

2 Cf. the profile offered by Fernando ECHEVERRIA REY, «The Nature of Hoplite Warfare», in W. Heckel – F. S. Naiden – E. E. Garvin – J. Vanderspoel (eds.), *A Companion to Greek Warfare*, Wiley Blackwell, Hoboken, 2021, pp. 83-85.

construction of ancient Greek warfare. The so-called orthodoxy, a quite explanatory self-definition of a subject that is inherently non-dogmatic, represents the conventional view of that subject. Following the well-trodden path laid out by a part of Anglophone and German scholars³, orthodoxy has taken a more definite shape, capitalising on the results of the Face-of-battle approach⁴, as emerged in the several works of Victor Davis Hanson. His reappraisal of ancient Greek warfare goes beyond mere military matters, covering broader topics such as the rise of the *polis*, agrarianism (the term that embraces the ideology of his work) and the alleged Western way of war⁵. This mainstream narrative, as Hanson names the followers who were growing even outside the hoary academic debate⁶, has been consistently challenged by the revisionists who, in our view, have produced valuable outcomes that, as in every field, call for broader discussion and

- 3 Roel KONIJNENDIJK, *Classical Greek Tactics. A Cultural History*, Brill, Leiden – Boston, 2018, pp. 6-38 who coins the expression “the Prussian Model of Hoplite Battle”; cf. the pointed observations by Everett L. WHEELER, «Review of Roel Konijnendijk, *Classical Greek Tactics. A Cultural History*, Brill, Leiden – Boston», *Ancient History Bulletin*, 19 (2019), pp. 35-45. Cf. in detail Roel KONIJNENDIJK, *Between Miltiades and Moltke: Early German Studies in Greek Military History*, Brill, Leiden, 2013.
- 4 John KEEGAN, *The Face of Battle*, Jonathan Cape, London, 1976; cf. the critics of Everett L. WHEELER, «Firepower: Missile Weapons and the “Face of Battle”», *Electrum*, 5, (2001), pp. 169-170; of Everett L. WHEELER, «Introduction», in Everett L. Wheeler (ed.), *The Armies of Classical Greece*, Routledge, London – New York, 2007, pp. xxi-xxvi; for a different judgment cf. Lee L. BRICE, «Ancient Warfare and Moving Beyond “New Military History”», in Lee L. Brice (ed.), *New Approaches to Greek and Roman Warfare*, Hoboken, Wiley Blackwell, 2020, pp. 3-6.
- 5 His scholarly production from the 1980s and the early 2000s is remarkably extensive: cf. Victor D. HANSON, *The Western Way of War: Infantry Battle in Classical Greece*, Hodder & Stroughton, London 1989 and following reprints; Victor D. HANSON, «Ideology of Hoplite Battle», in Victor D. Hanson (ed.), *Hoplites. The Classical Greek Battle Experience*, Routledge, London – New York, 1991, pp. 1-10; Victor D. HANSON, *The Other Greeks. The Family Farm and the Agrarian Roots of Western Civilization*, University of California Press, Berkeley, 1999a; Victor D. HANSON, *Warfare and Agriculture in Classical Greece*, University of California Press, Berkeley, 1999b; Victor D. HANSON, «Hoplite Battle as Ancient Greek Warfare. When, Where and Why?», in Hans van Wees (ed.), *War and Violence in Ancient Greece*, The Classical Press of Wales, Swansea, 2000, pp. 201-231; Victor D. HANSON, «Genesis of Infantry, 600-350 BC», in Geoffrey Parker (ed.), *The Cambridge History of War*, Cambridge University Press, Cambridge, 2005, pp. 15-29.
- 6 Victor D. HANSON, «The Hoplite Narrative», in Donald Kagan – Gregory F. Viggiano (eds.), *Men of Bronze. Hoplite Warfare in Ancient Greece*, Princeton University Press, Princeton, 2013, pp. 256-276.

reassessment⁷. However, even if the revisionists have raised many questions, point by point, turning the debate into a rapid-fire exchange of arguments, nowadays the *status quaestionis* is, in practice, in a deadlock, with each faction entrenched in its respective position⁸. Outside academia, the narrative shaped by Hanson holds to some extent⁹, while in the prolific production of scholars, the revisionists maintain a solitary engagement with the issue without being questioned with the same regularity.

In this chapter, readers should not expect a comprehensive reassessment of the numerous contentious topics related to hoplitism; perhaps another volume dedicated to hoplites could address each issue, even in broad strokes. Instead, we focus on selected questions that enable us to develop a concise overview of sensitive matters. From the author's perspective, this chapter represents a preliminary ground for future research. In the initial section, an attempt will be made to define the concept of hoplite, covering both the political (one of the most controverted themes in the debate) and the military aspects. In the subsequent sections, primarily focused on the Classical period¹⁰, we concentrate

7 For the moment, we mention only the main revisionists belonging solely to the 2000s, the succeeding will be mentioned in the following sections: cf. Hans VAN WEES, *Greek Warfare. Myth and Realities*, Duckworth, London, 2004; Peter KRENTZ, «The nature of hoplite battle», *Classical Antiquity*, 4, (1985), pp. 50-61; Peter KRENTZ, «Warfare and Hoplites», in H. Alan Shapiro (ed.), *The Cambridge Companion to Archaic Greece*, Cambridge University Press, Cambridge, 2007, pp. 61-84; Louis RAWLINGS, *The Ancient Greek at War*, Manchester University Press, Manchester, 2007.

8 As clearly admitted several times in Donald KAGAN – Gregory F. VIGGIANO, *The Hoplite Debate*, in Donald Kagan – Gregory F. Viggiano (eds.), *Men of Bronze. Hoplite Warfare in Ancient Greece*, Princeton University Press, Princeton, 2013, pp. 1-56.

9 For the fortune of Hanson: Francisco J. GONZALES GARCIA – Pedro L. BARJA DE QUIROGA, «Neocon Greece: V. D. Hanson's War on History», *International Journal of the Classical Tradition*, 19.3, (2012), pp. 129-151. On the ideology widespread in his work: Jeand-Christophe COUVENHES, «L'invention d'une catégorie intellectuelle et historique: la Bataille hoplitique selon Victor D. Hanson et ses constructions idéologiques dans le monde grec antique», in Jean Baechler – Olivier Chaline (eds.), *La Bataille*, Editions Hermann, Paris, 2018, pp. 51-62.

10 For the problems regarding warfare during the Archaic period cf. at least Everett L. WHEELER, «Ephorus and the Prohibition of Missiles», *Transactions of the American Philological Association*, 117, (1987), pp. 157-182; Josho BROWERS, *Henchmen of Ares. Warriors and Warfare in Early Greece*, Karwansaray, Rotterdam, 2013; Matthew LLOYD, «Unorthodox Warfare? Variety and Change in Archaic Greek Warfare (ca. 700-ca. 480 BCE)», in Brian Hughes – Fergus Robson (eds.), *Unconventional Warfare from Antiquity to the Present Day*, Palgrave Macmillan, Gewerbestrasse, 2017, pp. 231-253; Matthew LLOYD, «Pre-Archaic Greek Warfare in



Fig. 1. Achaemenid King killing a Greek hoplite. A possible depiction of Xerxes killing Leonidas. Full image with original cylinder [on this page](#). Livius org 2019. (Wikimedia Commons)

solely on military topics. In addition to a paragraph on equipment, we briefly explore the organisation of hoplites before and during campaigns, the challenges they faced against other types of troops, and most notably, the thorny issue of reconstructing a “conventional” hoplitic battle. In all these sections, we outline several approaches from the orthodoxy and the revisionists on these points, suggesting possible further lines of interpretation exclusively when justified. Within this bibliographic labyrinth, it is always recommendable for future readers who aim to approach hoplitem to delve into the various questions, taking as a starting point a meticulous philological reading of the ancient sources.

Context», in Roel Konijnendijk – Cezary Kucewicz – Matthew Lloyd (eds.), *Brill's Companion to Greek Land Warfare Beyond the Phalanx*, Brill, Leiden, 2021, pp. 17-63 with further references.

The “birth” of a myth

The hoplites had their natural habitat within the socio-political humus, which contributed to the controversial emergence of the city-state, of the polis. Instead, it might be argued with due caution that the polis, from its obscure emergence situated between the 8th and 7th centuries to full maturity in the Classical age, was almost invariably associated with its quintessential heavily armed citizen-soldier: the hoplite who first emerged in the 7th century¹¹. Up until quite recently, despite several attempts treading on a very slippery ground, this almost flawless sequential reading of the first steps of the polis and how it then developed remained largely unquestioned, especially when there has been recourse to the concept of middling-ideology¹². In this respect, a well-known passage from Aristotle’s ‘Politics’ offers fertile ground for those who continue to debate and endorse this reconstruction. According to the Philosopher, following a period characterised by aristocratic government—in which horsemen were the undisputed masters of the battlefield due to the disorder among the hoplites—city-states expanded, and increasing numbers of citizens began to participate in governance. This development, as he defines it, constituted the “hoplite constitution democracy”¹³. This is not the opportune place to engage in a full review

11 Cf. Martin NILSSON, «Die Hoplitentaktik und das Staatswesen», *Klio*, 22, (1929), pp. 240-249; Andrew ANDREWES, *The Greek Tyrants*, Hutchinson’s University Library, London, 1956, pp. 31-42. This reading gained prominence even among French scholars following the seminal book *Problèmes de la guerre en Grèce ancienne* published in 1968: cf. Marcel DETIENNE, «La phalange. Problèmes et controverses» in Jean-Pierre Vernant (ed.), *Problème de la guerre en Grèce ancienne*, Mouton & Co, Paris, 1968, pp. 119-142; Pierre VIDAL-NAQUET, «La tradition de l’hoplite athénien», in Jean-Pierre Vernant (ed.), *Problème de la guerre en Grèce ancienne*, Mouton & Co, Paris, 1968, pp. 161-182; cf. Pascal PAYEN, *La guerre dans le monde grec. VIII^e-I^{er} siècles avant J.-C.*, Armand Colin, Malakoff, 2018, pp. 63-69. Cf. the thorough survey on the “hoplite revolution” as a key factor to explain the Archaic period according previous scholarship: Roel KONIJNENDIJK – Fernando ECHEVERRIA REY, «Max Weber, the Rise of the Polis, and the “Hoplite Revolution” Theory», *Journal of the History of Ideas*, 84.1, (2023), pp.103-125.

12 Among the many scholars: e.g. Ian MORRIS, «The strong principle of equality and the archaic origins of Greek democracy», in Josiah Ober – Charles Hedrick (eds.), *A Conversation on democracies, ancient and modern*, Princeton University Press, Princeton, 1996, pp. 19-48 for the concept of “middling tradition”; cf. the critics of Alain DUPLOUY, «Citizenship as performance», in Alain Duplouy – Roger Brock (eds.), *Defining Citizenship in Archaic Greece*, Oxford University Press, Oxford, 2018, pp. 270-272 with further references.

13 Arist. Pol. 1297b. Even today, this view continues to attract resolute advocates: cf. Gregory F. VIGGIANO, «The Hoplite Revolution and the Rise of the Polis», in Donald Kagan – Gregory

of the scholarly debate surrounding this canonical and historically consequential passage from the ‘Politics’¹⁴, yet two main points are worth highlighting. The unresolved question of the birth of hoplites, as has been rightly emphasised¹⁵, belongs more to modern interpretation than to Aristotle’s own reflections: he believed that hoplites, though initially fighting in a disorganised fashion, had always existed. Their supposed birth, then, is better understood as an academic chimaera than a perspective suggested by available sources. Moreover, given the conventional view that identifies hoplites as the perfect middling-class who could afford the complete military equipment and were positioned between the extreme poles of elites and the masses, it is still instructive to give due consideration to the so-called Solonian classes, still working in the 4th century¹⁶. The Athenian system, being the most thoroughly documented, is especially valuable even in this regard. Across several studies over time, Hans van Wees challenges the previous assumption that the *zeugitai*, the third tier in the Solonian classes, constituted the main social base of the hoplite force¹⁷. In addition to the valuable

F. Viggiano (eds.), *Men of Bronze. Hoplite Warfare in Ancient Greece*, Princeton University Press, Princeton, 2013, pp. 112-133; Mauro MOGGI, «Talassocrazia e democrazia radicale. Contestazioni ad Aristotele e storiografia “creativa”», *Ktèma*, 49, (2024), pp. 291-312.

- 14 Lucio BERTELLI – Mauro MOGGI, *Aristotele. La Politica. Libro IV*, «L’Erma» di Bretschneider, Roma, 2014, pp. 274-276.
- 15 For the “hoplite revolutions” as a modern construct: Kurt A. RAAFLAUB, «Homer to Solon. The Rise of the *Polis*. The Written Sources», in Mogens H. Hansen (ed.), *The Ancient Greek City-State. Symposium on the occasion of the 250th Anniversary of The Royal Danish Academy of Sciences and Letters. July, 1-4, 1992*, Special-Trykkeriet Viborg, Copenhagen, 1993, p. 80; for a closer examination on this point cf. Marco BETTALLI, «Ascesa e decadenza dell’oplita», *Hormos. Ricerche di Storia antica*, 1, (2008/2009), pp. 8-9; Marco BETTALLI, «L’oplita nella storia greca», in Marco Bettalli – Giovanni Brizzi (eds.), *Guerre ed eserciti nell’antichità*, il Mulino, Bologna, pp. 36-38; Marco BETTALLI, *Un mondo di ferro. La guerra nell’Antichità*, Laterza, Bari – Roma, 2019, pp. 47-49.
- 16 For a reading of the available sources on this topic more inclined to the traditional theory cf. Miriam VALDÉS GUIA – Julian GALLEGÓ, «Athenian *Zeugitai* and the Solonian census classes: new reflections and perspectives», *Historia: Zeitschrift für Alte-Geschichte*, 59.3, (2010), pp. 257-281; Miriam VALDÉS GUIA, «*Zeugitai* in Fifth-Century Athens: Social and Economic Qualification from Cleisthenes to the End of the Peloponnesian War», *Pnyx: Journal of Classical Studies*, 1, 2022, pp. 45-78.
- 17 Hans VAN WEES, «Politics and the Battlefield: Ideology in Greek Warfare» in A. Powell (ed.), *The Greek World*, Routledge, London, 1995, pp. 153-178; Hans VAN WEES, «The Myth of the Middle-class Army: Military and Social Status in Ancient Athens», in Tønnes BEKKER-NIELSEN – Lise HANNESTAD (eds.), *War as a Cultural and Social Force. Essays on Warfare in Antiquity*, Reitzels Forlag, Copenhagen, 2001, pp. 45-71; Hans VAN WEES, «Tyrants, Oligarchs

results of archaeological surveys¹⁸, his findings show that the zeugitai possessed sufficient wealth to exceed the minimum threshold required to equip themselves for combat as heavy infantry. Therefore, the old connection between the emergence of the polis and the alleged middle-hoplite constitutes precarious ground from which to draw consequential conclusions regarding one typology of governance linked to a particular class of combat even during the Classical period. In light of what has emerged – needless to say, such a topic should be reviewed at length¹⁹ – it is now advisable to restrict consideration to the military aspects of hopliteness and to how this heavy infantry interacted with other army personnel of the Classical period.

Equipment as self-definition

In order to take to the battlefield as hoplites – and thereby gain recognition as such by their contemporaries – individuals had to own a specific set of equipment. In this section, we shall commence by outlining the armour structure in descending order, from cranial protection to lower extremities, before focusing

and Citizen Militias», in Angelos Chaniotis – Pierre Ducrey (eds.), *Army and Power in the Ancient World*, Franz Steiner Verlag, Stuttgart, 2002, pp. 72-78; Hans VAN WEES, «War and Society», in Philip Sabin – Hans van Wees – Michael Whitby (eds.), *The Cambridge History of Greek and Roman Warfare. Volume I: Greece, the Hellenistic World and the Rise of Rome*, Cambridge University Press, Cambridge, 2007, pp. 274-276; Hans VAN WEES, «Farmers and Hoplites: Models of Historical Development», in Donald Kagan – Gregory F. Viggiano (eds.), *Men of Bronze. Hoplite Warfare in Ancient Greece*, Princeton University Press, Princeton, 2013, pp. 222-255; Hans VAN WEES, «Citizens and Soldiers in Archaic Athens», in Alayn Duploy – Roger Brock (eds.), *Defining Citizenship in Archaic Greece*, Oxford University Press, Oxford, 2018, pp. 103-144. Cf. Lucia CECCHET, «“Don’t tell anybody you are a thete!”: Athenian Thetes: Identity and Visibility», in S. D. Gartland – D. W. Tandy (eds.), *Voiceless, Invisible, and Countless in Ancient Greece. The Experiences of Subordinates, 700-300 BCE*, Oxford University Press, Oxford, 2024, pp. 105-109.

18 Lin FOXHALL, «Can We See the “Hoplite Revolution” of the Ground? Archaeological Landscapes, Material Culture, and Social Status in Early Greece», in Donald Kagan – Gregory F. Viggiano (eds.), *Men of Bronze. Hoplite Warfare in Ancient Greece*, Princeton University Press, Princeton, 2013, pp. 194-221.

19 This view has yet to gain complete consensus among scholars: cf. Vincent GABRIELSEN, «The Impact of Armed Forces on Government and Politics in Archaic and Classical Greek Poleis: A Response to Hans van Wees», in Angelos Chaniotis – Pierre Ducrey (eds.), *Army and Power in the Ancient World*, Franz Steiner Verlag, Stuttgart, 2002, pp. 83-98; Richard Ferdinando BUXTON, «Hoplites and Oligarchy: a Marked Association in Classical Greece», *Phoenix*, 75.3-4, (2021), pp. 257-283.

on weaponry²⁰. Naturally, safeguarding the head was paramount for avoiding fatal injuries as well as cranial trauma. As various catalogues clearly demonstrate, with due regard for the distinctions across models, the most common was the so-called Corinthian helmet for almost a period. Noted for the craftsmanship and the protection for the sides, this version – characterised by a “t-shaped” opening for the eyes – entailed severe limitations on mobility and, most importantly, upon acoustic²¹. Unsurprisingly, given their zealotry regarding the capillary chain of command, the Spartans opted for a conic model that boosted acoustics but, by contrast, made them a conspicuous target for missiles and arrows. However, a range of models was in circulation, and someone could opt for the favourite one or solely for the available one: Xenophon’s suggestions for a version that enhanced visibility, without naming the specific kind, show how the choice rested on individuals²². Regardless of the exact shape or manufacture, hoplites were required to wear a helmet. Such a claim does not apply to the breastplate, which represented an optional piece for the hoplite. Among the components of the panoply, the cuirass²³ was by far the most expensive. Ranging from the bronze types to the lighter linen versions, it is likely that the cuirass represented the main distinctive feature of the single soldier. While linen cuirasses were relatively cheaper, comfortable, breathable, and offered advantages in mobility²⁴, the adoption of a bronze cuirass often relied on the desire for impression. The Greeks fully acknowledged the intimidating impact that a gleaming bronze cuirass could exert upon the enemy’s morale; indeed, the wise Spartans strove

20 For the armour cf. Antony SNODGRASS, *Arms and Armour of the Greeks*, Ithaca, New York, 1967, pp. 35-88; John K. ANDERSON, *Military Theory and Practice in the Age of Xenophon*, University of California Press, Berkeley – Los Angeles, 1970, pp. 13-42; Eero JARVA, *Archaiologia on Archaic Greek Body Armour*, Rovaniemi, 1995; Eero JARVA, «Arms and Armours», in Brian Campbell – Lawrence A. Tritle (eds.), *The Oxford Handbook of Warfare in the Classical World*, Oxford University Press, Oxford, 2013, pp. 395-418.

21 Gregory F. VIGGIANO – Hans VAN WEES, «The Arms, Armor, and Iconography of Early Greek Hoplite Warfare», in Donald Kagan – Gregory F. Viggiano (eds.), *Men of Bronze. Hoplite Warfare in Ancient Greece*, Princeton University Press, Princeton, 2013, pp. 60-61

22 Xen. *De re eq.* 12.13-14.

23 For the cuirass see now Henry W. LANPHIER, «The Bronze Hoplite Panoply and the *Othismos* in the Early Phalanx», *Greece & Rome*, 72.2, (2025), pp. 293-298.

24 On linen and his employment for armour: Gregory S. ALDRETE – Scott BARTELL – Alicia ANDRETE, *Reconstructing Ancient Linen Body Armour. Unraveling the Linothorax Mystery*, The John Hopkins University Press, Baltimore, 2013.

to appear as a single mass of bronze as a deliberate strategy to terrify their enemies²⁵. That the sources stress the Spartan uniformity in dressing for battle suggests that such a practice was far from widespread. Other pieces of armour, such as eventually coverings for the unshielded side and grieves for shin guards, were sometimes employed, but were by no means universal²⁶. While still bearing in mind the lack of homogeneity among the various pieces, the entire panoply was likely to weigh 22 kilograms (78 pounds)²⁷.

Regarding the weapons, the peculiar piece was the defensive one: the hoplite shield²⁸. In addition to being one of the extensively discussed topics regarding hoplites — its introduction, the diameter, and, as we shall see, its problematic employment during fights, only to mention some thorny questions²⁹ — this round wooden shield, around 90cm in diameter³⁰, represented the iconic tool for hoplites, as evidenced through numerous iconographic representations³¹. The curved *aspis* had a loop in the centre, through which the hoplite would slide his arm up to the elbow; while on the edge of the shield, there was a handgrip, often shown in artistic representations as a cord. Within the framework of technological determinism, those reconstructing hoplite battles—and examining broader issues

25 Ellen MILLENDER, «The Greek Battlefield: Classical Sparta and the Spectacle of Hoplite Warfare», in Werner Riess – Garrett G. Fagan (eds.), *The Topography of Violence in the Greco-Roman World*, University of Michigan Press, Ann Arbor, 2016, p. 174; Roel KONJENDIJK, «Commemorating through Fear: The Spartan Reputation as a Weapon of War», in Maurizio Giangiulio – Elena Franchi – Giorgia Proietti (eds.), *Commemorating War and War Dead. Ancient and Modern* pp. 257-270.

26 Cf. Nicholas SEKUNDA – Adam HOOK, *Greek Hoplite. 480-323 BC*, Osprey Publishing, Oxford, 2000, pp. 12-13.

27 Peter KRENTZ, «Hoplite Hell: How Hoplites Fought», in Donald Kagan – Gregory F. Viggiano (eds.), *Men of Bronze. Hoplite Warfare in Ancient Greece*, Princeton University Press, Princeton, 2013, pp. 135-136

28 Remember that hoplites derived their name not from the shield, the *hoplon*, rather for the equipment, namely *hopla*: John F. LAZENBY – David WHITEHEAD, «The myth of the hoplite's *hoplon*», *Classical Quarterly*, 46, 1996, pp. 27-33.

29 For the debate: Adam SCHWARTZ, *Reinstating the Hoplite. Arms, Armour and Phalanx Fighting in Archaic and Classical Greece*, Franz Steiner Verlag, Stuttgart, 2009, pp. 25-53.

30 Xen. *Mem.* 3.10.12 clearly demonstrates how even the shield's dimension depended on the body of the hoplite.

31 For the distinctions between hoplites and other troops: Françoise LISSARRAGUE, *L'autre Guerrier. Archers, peltastes, cavaliers dans l'imagerie attique*, Editions la Découverte, Paris – Rome, 1990.

related to hoplitem—have argued that this type of shield was either designed from the outset or adapted over time specifically to facilitate pushing³². Such a shield's model, however, constituted an ambivalent instrument for the bearer. Equally manoeuvrable for the hoplites during fights, as well as, at the same time, a heavy hindrance if a flight occurred. The offensive weapons were only two³³: the spear and a short sword. Due to the former's vulnerability to breakage during combat, in the heat of the battle, the sword offered a valid alternative for the hoplite. Given what emerged in the previous section regarding the status of hoplites, it is appropriate to consider the costs of weapons and panoply, which are not precisely quantifiable. During the classical period, the shield and weapons could cost approximately 25 to 30 drachmas, an amount equivalent to a month's wages for a skilled worker. This sum was, on the whole, affordable for a broad user base, allowing lower-status citizens to arm themselves as hoplites. On the other hand, a finely crafted cuirass might reach up to 75 to 100 drachmas³⁴; as a result, the proportion of individuals who could afford it drops significantly. In a society where individuals were responsible for their own equipment, armour could be inherited from the father or obtained through various (and often informal) channels, including loans from friends and gifts. Perhaps the most notable example in this diversified picture is Alcibiades, the exceptionally wealthy Athenian, who, among the many things, was renowned for his lavish armour and gilded shield: he would have stood alongside less eye-catching, barely well-equipped companions³⁵. In their aspiration to emulate the Homeric heroes – who represented

32 Victor D. HANSON, «Hoplite Technology in Hoplite Battle», in Victor D. HANSON (ed.), *Hoplites. The Classical Greek Battle Experience*, Routledge, London – New York, 1991, p. 69; cf. Scott M. RUSCH, *Sparta at War. Strategy, Tactics, and Campaigns 550-362 BC*, Frontline, London, 2011, p. 17.

33 John K. ANDERSON, «Hoplite Weapons and Offensive Arms», in Victor D. HANSON (ed.), *Hoplites. The Classical Greek Battle Experience*, Routledge, London – New York, 1991, pp. 15-37. For the problems on handling the spear: Christopher MATTHEW, *A Storm of Spears. Understanding the Greek Hoplite at War*, Pen & Sword, Barnsley, 2012, pp. 1-18.

34 For the costs cf. Ronald T. RIDLEY, «The hoplite as citizen: Athenian military institutions in their social context», *L'Antiquité Classique*, 48.2, (1979), pp. 520-521; Hans VAN WEES, *Greek Warfare*, cit. p. 52; Peter HUNT, «Military Forces», in Philip SABIN – Hans van WESS – Michael Whitby (eds.), *The Cambridge History of Greek and Roman Warfare. Volume I: Greece, the Hellenistic World and the Rise of Rome*, Cambridge University Press, Cambridge, 2007, pp. 115-116; Peter ACTON, *Poiesis. Manufacturing in Classical Athens*, Oxford University Press, Oxford, 2014, pp. 134-135.

35 Plut. *Alc.* 16.1-2; cf. Hans VAN WEES, *Greek Warfare*, cit. pp. 52-54.

the charter behavioural benchmark throughout the Classical period³⁶ – hoplites, especially those from elite backgrounds and able to afford the finest armour, sought to display their status whenever possible. It is therefore unsurprising that, when arrayed for the imminent battle, hoplites likely presented a heterogeneous look than the conventional stereotype suggests. As we will later examine, this evidence could call into question the traditional view that depicted all hoplites as quite identically equipped and working as a singular, uniform group.

From home departure to conflict zones: the hybridity of amateur ancient Greek warfare

Unlike a regular standing army, the Classical period was made up of part-time soldiers who were called up only when necessary³⁷. Such an unsystematic mode entailed several implications that extended far beyond the mere self-equipment, mainly in relation to the training and subsequent enrolment of hoplites.

First of all, alongside the institution of the well-known *ephebeia* – the biennial state training programme for Athenian youths between eighteen and twenty³⁸ – citizens who would fight as hoplites were required to be physically fit³⁹. In Athens (as in other places), athletic practice shaped bodily preparedness, reflecting a broader agonistic ethos. From the Greeks' viewpoint, or it is better to say according to the sources imbued with aristocratic values, the opportune physical fitness achieved through agricultural labour was supplemented, when-

36 Fundamental on this topic is the seminal work of John E. LONDON, *Soldiers and Ghosts: A History of Battle in Classical Antiquity*, Yale University Press, New Haven – London, despite disagreement on London's approach: Everett L. WHEELER, «Soldiers and Ghosts: A History of Battle in Classical Antiquity by J. E. London», *The American Journal of Philology*, 127.2 (2006), pp. 305-309.

37 For the military experience perceived as a citizens' duty: cf. David M. PRITCHARD, «The symbiosis between democracy and war: the case of ancient Athens», in David M. Pritchard (ed.), *War, Democracy and Culture in Classical Athens*, Cambridge University Press, Cambridge, 2010, p. 6; David M. PRITCHARD, *Athenian Democracy at War*, Cambridge University Press, Cambridge, 2019, pp. 43-46.

38 Thomas R. HENDERSON, *The Springtime of the People. The Athenian Ephebeia and Citizen Training from Lykourgos to Augustus*, Brill, Leiden, 2020; Eleonora PISCHEDDA, *L'economia pubblica di Atene. Stato, finanze e società nel IV secolo a.C.*, Carocci, Roma, 2022, pp. 147-151 with further evidence.

39 On training: Peter HUNT, «Military Forces», cit. pp. 133-135.

ever possible, by hunting during σχολή, the leisure time⁴⁰. Hunting, indeed, was regarded as an effective surrogate for warfare and considered an optimal setting for preparation⁴¹. As might be expected, for the lower strata of the citizen body who could afford hoplite equipment yet were absorbed by daily demands, access to such elite-coded activity remained unattainable. As a consequence, before reaching conclusions about hoplites' overall efficiency, it should not be overlooked that there was a lack of uniformity in bodily presence with respect to contemporary military standards⁴².

Secondly, enrolment took place only when the need arose for a short-term expedition against enemies on the borders or a more sustained overseas campaign. In Athens, as soon as the Assembly voted for an expedition, the number of citizens who would take part was determined. The elected *strategoi* selected the hoplites from the so-called *katalogoi* ("lists"), which were drawn up in each tribe; it is not coincidental that the sources sometimes report of hoplites *ek katalogou*⁴³. However, it is worth noting that, in a society deeply rooted in martial values, volunteer participation could also play a significant role. From the late 4th century, the Athenian hoplites began to be enlisted through precise selection by age classes, following a model already standard in Sparta⁴⁴.

After departing from home and their polis⁴⁵, hoplites were employed in a

40 Hans VAN WEES, «War and Society», cit. pp. 279-280. For the debate on aristocratic values: cf. Han van WEES – Nick FISHER, «The trouble with "aristocracy"», in Hans van Wees – Nick Fisher (eds.), «*Aristocracy in Antiquity. Redefining Greek and Roman Elites*», The Classical Press of Wales, Swansea, 2015, pp. 1-58.

41 Cf. Xen. *Cyn.* 12; *Cyr.* 1.2.19; 6.28-29; 6.39-41; 7.5.62-64; 8.1.34.38; Judith M. BARRINGER, *The Hunt in Ancient Greece*, The Johns Hopkins University Press, Baltimore – London, 2001, pp. 10-14;

42 In counterintuitive fashion the Greek paid little attention to training with spears and swords, regarding it as naturally internalized: John K. ANDERSON, *Military Theory*, cit. pp. 84-87; on the question of the so called *hoplomachoi*: Everett L. WHEELER, «*Hoplomachia* and Greek dances in arms», *Greek, Roman & Byzantine Studies*, 22, (1982), pp. 223-233; Everett L. WHEELER, «The *hoplomachoi* and Vegetius' Spartan drillmasters», *Chiron*, 13, (1983), pp. 1-20.

43 Thuc. 6.26.2; 6.31.3; 6.43.1: Matthew A. CHRIST, «Conscription of Hoplites in Classical Athens», *Classical Quarterly*, 51, (2001), pp. 398-422; cf. David M. PRITCHARD, *Athenian Democracy at War*, cit. pp. 46-52. For the concept of reluctant conscript, Matthew A. CHRIST, *The Bad Citizen in Classical Athens*, Cambridge University Press, Cambridge, 2006, pp. 45-87.

44 Marco BETTALLI, «Ascesa e decadenza», cit. p. 9.

45 See the monography of Owen REES, *Military Departures, Homecomings and Death in Classical Athens. Hoplite Transitions*, Bloomsbury Academic, London – New York, 2022, centered

variety of roles, always accompanied by their slaves, who were the daily, unnoticed presence whose role remained implied yet seldom recorded by sources, even during wartime⁴⁶. There is a long-standing tradition among scholars, particularly among proponents of the orthodox narrative, to assume that hoplites were almost always inadapted because of their cumbersome armour compared to other, lighter troops. According to this view, hoplites, hindered by their slow movement, were only and exclusively workable as a group within the confines of the well-known phalanx, their natural comfort zone⁴⁷. Put simply, taken alone, they would have proved largely ineffectual. Nevertheless, it has been persuasively argued that hoplites could undertake various tasks, including raids, alongside different types of soldiers⁴⁸. On triremes, hoplites served as *epibatai*, a sort of marines, fighting on deck during boarding operations and accompanying other troops during raids on the shore⁴⁹. Their involvement in siege operations is

upon iconography too.

- 46 Vd. the classical study of Peter HUNT, *Slaves, Warfare, and Ideology in the Greek Historians*, Cambridge University Press, Cambridge, 1998; Peter HUNT, «War and Slavery in the Greek World», in W. Heckel – F. S. Naiden – E. E. Garvin – J. Vanderspoel (eds.), *A Companion to Greek Warfare*, Wiley Blackwell, Hoboken, 2021, pp. 271-285 with further references. Moreover, even with the renowned difficulties, further researches should try to review deeply the slaves' presence during military campaign in relation to the narrative of previous work.
- 47 Among the several scholars cf. Marcel DETIENNE, «La phalange», cit. *passim*; John K. ANDERSON, *Military Theory*, cit. pp. 175-176; Paul CARTLEDGE, «Hoplites and heroes: Sparta's contribution to the technique of ancient warfare», *The Journal of Hellenic Studies*, 97, (1977), pp. 15-16; Victor D. HANSON, *The Western Way of War*, cit. pp. 174-175; John F. LAZENBY, Hugh BOWDEN, «Hoplites and Homer: Warfare, hero cult, and the ideology of the polis, in John Rich – Graham Shipley (eds.), *War and Society in the Greek World*, Routledge, London – New York, 1993, p. 53; John F. LAZENBY, «The Killing Zone» in Victor D. Hanson (ed.), *Hoplites. The Classical Greek Battle Experience*, Routledge, London – New York, 1991, p. 96.
- 48 Louis RAWLINGS, «Alternative Agonies: Hoplite Martial and Combat Experiences Beyond the Phalanx», in Hans van Wees (ed.), *War and Violence in Ancient Greece*, The Classical Press of Wales, Swansea, 2000, pp. 233-260; Peter KRENTZ, «War», in Philip Sabin – Hans van Wees – Michael Whitby (eds.), *The Cambridge History of Greek and Roman Warfare. Volume I: Greece, the Hellenistic World and the Rise of Rome*, Cambridge University Press, Cambridge, 2007, pp. 167-173; Richard TAYLOR, *The Greek Hoplite Phalanx. The Iconic Heavy Infantry of Classical Greece*, Pen & Sword, Yorkshire – Philadelphia, 2021, pp. 254-308.
- 49 On *epibatai*: Vincent GABRIELSEN, *Financing the Athenian Fleet. Public Taxation and Social Relations*, The John Hopkins University Press, Baltimore, 1994, pp. 106-107; Matteo ZACCARINI, «Thucydides' Narrative on Naval Warfare: *Epibatai*, Military Theory, Ideology», in Geoff Lee – Helene Whittaker – Graham Wrightson (eds.), *Introducing Current Research. Volume I*, Cambridge Scholars Publishing, Cambridge, 2015, pp. 210-228; Tristan HERZO-

well attested; yet, given the particular nature of classical Greek siegecraft, it is sometimes unclear from the sources what specific function they fulfilled, since direct assaults were a decision never taken lightly—quite the contrary⁵⁰. It is essential to clarify that during these tasks, hoplites were most effective when they worked in combination with other troops, such as cavalry and lighter troops. As we have hinted at the outset of this chapter, these auxiliary troops, often overshadowed by hoplites in academic debate, are now considered key actors in ancient Greek warfare by the revisionists⁵¹. Rather than an arbitrary exclusion of hoplites – a compensatory approach that may serve to foreground horsemen and light troops – it would be appropriate for further research to undertake a close analysis of the modes of cooperation among these diverse troops⁵². Their proficiency relied upon variables such as terrain, the presence or absence of supporting units, and morale, which depended on prior engagements, among others, and must always be considered. In this context, hoplites, alongside other equally significant troops in specific situations, constituted one of the several elements within a broader military ensemble of the Classical period.

As we draw our conclusions, it is important to address in detail what is perhaps the most challenging—and likely unanswerable—question regarding hoplites: how exactly did they fight against each other?

GENRATH-AMELUNG, «Naval Hoplites. Social Status and Combat Reality of Classical Greek *epibatai*», *Historia: Zeitschrift für Alte-Geschichte*, 66.1, (2017), pp. 45-64. On their role in coastline raids: John R. HALE, «Not Patriots, Not Farmers, Not Amateurs: Greek Soldiers of Fortune and the Origine of Hoplite Warfare», in Donald Kagan – Gregory F. Viggiano (eds.), *Men of Bronze. Hoplite Warfare in Ancient Greece*, Princeton University Press, Princeton, 2013, pp. 181-182.

50 Michael G. SEAMAN, «Early Greek Siege Warfare», in Lee L. Brice (ed.), *New Approaches to Greek and Roman Warfare*, Hoboken, Wiley Blackwell, 2020, pp. 29-38; Fernando ECHEVERRIA REY, «Assaults and Sieges. Rewriting the Other Side of Greek Land Warfare» in Roel Konijnendijk – Cezary Kucwicz – Matthew Lloyd (eds.), *Brill's Companion to Greek Land Warfare Beyond the Phalanx*, Brill, Leiden, 2021a, pp. 236-266; Fernando ECHEVERRIA REY, «Notes on the conceptualization of poliorcetics in archaic and classical Greek literature», *Dialogues d'histoire ancienne*, 47.1 (2021b), pp. 71-95

51 *Supra* n. 1; cf. Matthew A. SEARS, «Epilogue», in Roel Konijnendijk – Cezary Kucwicz – Matthew Lloyd (eds.), *Brill's Companion to Greek Land Warfare Beyond the Phalanx*, Brill, Leiden, 2021, pp. 345-352.

52 For the approach of combined arms for ancient Greek warfare vd. Graham WRIGHTSON, *Combined Arms Warfare in Ancient Greece. From Homer to Alexander the Great and his Successors*, Routledge, 2019, pp. 101-158 for the Classical period.



Fig. 2. Detail of the so-called Chigi Vase (olpē, ca 650 BC), Museo Nazionale Etrusco di Villa Giulia (Wikimedia Commons, CC BY-SA 4.0)

The Question of battle tactics or the existence of othismos

As we have observed in the previous sections, scholars have been able to outline, with varying degrees of detail, the numerous aspects of hoplites and their world. Paradoxically, however, a detailed understanding of the nature of engagement in a “typical” hoplite battle – the *desideratum* par excellence of all military historians – remains elusive. This central concern relies upon two main attitudes of ancient historiographical sources. Firstly, from Herodotus to Xenophon, to mention the prominent authors who cover the period under investigation, take for granted a set of dynamics that were familiar to their contemporary readers. Even though this may seem frustrating for us, it was unnecessary to explain what was self-evident to the Greeks, since military experience constituted the predominant aspect of male life⁵³. Our questions are never those of the ancients. On the other hand, the extant sources – being a historian and at

53 Paul CARTLEDGE, «The *machismo* of the Athenian Empire – or the reign of phaulus?», in Lin Foxhall – John Salmon (eds.), *When men were men. Masculinity, power and identity in classical antiquity*, Routledge, London – New York, 1998, pp. 54-67; Hans VAN WEES, «War and Society», pp. 298-299.

the same time a literary man are the other side of the same coin – draw on a repertoire of descriptive modes, ranging from conventional to more individual modes⁵⁴. This impasse can be perfectly summarised by Simon Hornblower's well-known observation: «only an unusually arrogant scholar could claim to know exactly what kind of thing went on a hoplite battle»⁵⁵. This pessimistic yet realistic statement depends on the stalemate reached among scholars who, through a back-and-forth exchange, attempt to determine the nature of the battle or, more precisely, the real character of *othismos*, traditionally understood as the mass-shove⁵⁶. The image of a scrum, shaped by rugby, has been increasingly adopted by academic scholars of British origin⁵⁷. The situation does not change across the Atlantic, even though the face-of-battle approach proceeds along different lines⁵⁸. Hanson and followers propose a model in which engagements between hoplites were characterised as follows: two ranks of hoplites attempted to push their opponents off the field by bracing against their own shields, while their comrades from the second line onward exerted constant pressure against the shoulders of the men in front. As a consequence, that is to say, the battle comes to resemble a form of “reverse tug-of-war”, with two opposing contin-

54 Pivotal on this topic the study of John E. LONDON, «Battle Description in the ancient historians, part I: structure, array, and fighting», *Greece & Rome*, 64.1, 2017, pp. 39-64. For the problems regarding the reconstruction of ancient battles see the classical study of N. WHATLEY, «On the Possibility of Reconstructing Marathon and Other Ancient Battles», *Journal of Hellenic Studies*, 84, (1964), pp. 119-139; cf. Michael WHITBY, «Reconstructing ancient warfare», in Philip Sabin – Hans van Wees – Michael Whitby (eds.), *The Cambridge History of Greek and Roman Warfare. Volume I: Greece, the Hellenistic World and the Rise of Rome*, Cambridge University Press, Cambridge, 2007, pp. 54-84.

55 Simon HORNBLOWER, *A Commentary on Thucydides. Volume II. Books IV-V.24*, Clarendon Press, Oxford, 1996, p. 306.

56 A very detailed overview of the debate can be found in Adam SCHWARTZ, *Reinstating the Hoplite*, cit. pp. 157-167 and pp. 187-200; cf. Christopher A. MATTHEW, «When Push Comes to Shove: What Was the “Othismos” of Hoplite Combat?», *Historia: Zeitschrift für Alte-Geschichte*, 51.4 (2009), pp. 395-396.

57 George B. GRUNDY, *Thucydides and His Ages*, John Murray, London 1911, p. 268, as far we know, was the first to link *othismos* to rugby; Paul CARTLEDGE, «Hoplites and heroes», cit. p. 16: «akin to the tight scrimmaging of modern football rugby» highlights the importance of the shield's creation and the annexed consequences during fight; cf. Paul CARTLEDGE, «Hoplites/politai: Refighting Ancient Battles» in Donald Kagan – Gregory F. Viggiano (eds.), *Men of Bronze. Hoplite Warfare in Ancient Greece*, Princeton University Press, Princeton, 2013, pp. 78-79.

58 John KEEGAN, *The Face of Battle*, cit. p. 76 denies the real impacts of the shock of massed soldiers.

gents striving to assert dominance on the field by pushing the enemy into rout⁵⁹. This image of a battle, resembling something drawn from a sports field, lends itself to numerous objections, from the duration of the fight⁶⁰ – we have never quite understood how hoplites could have survived under such pressure – to the ways of weapons' employment. Needless to say, the revisionists have advanced further models to push away the orthodox from their ground. First of all, they have argued, on defensible grounds, that the word *othismos* and the frequently used verb *otheo* should be read as metaphorical, and they stress how hoplites were capable of fighting as individuals⁶¹. Hoplites required space within their ranks to manoeuvre spears and make effective movements to destabilise the opponent with the shield, and then strike using the available weapons. Even if this reading can be fruitful —at least according to our view —some scholars have attempted, not without valid argument, to reassess the role of *othismos* without ruling out the possibility of the close fight⁶². Further effort to reinterpret differently the *othismos*, basing their reading on shield design and armour structure, tends to overlook the lack of uniformity in hoplites' equipment, as previously discussed⁶³. Although a definitive answer remains elusive, future research, ac-

59 Victor D. HANSON, *The Western Way of War*, cit. pp. 174-176; cf. A. J. HOLLADAY, «Hoplites and Heresies», *The Journal of Hellenic Studies*, 102 (1982), pp. 94-97; John K. ANDERSON, *Military Theory and Practice*, cit. p. 176; John K. ANDERSON, «Hoplite Weapons», cit. p. 15; John F. LAZENBY, «The Killing Zone», pp. 96-97; Robert D. LUGINBILL, «Othismos: The Importance of the Mass-Shove in Hoplite Warfare», 48.1, (1994), pp. 51-61; Stephen MITCHELL, «Hoplite Warfare in Ancient Greece», in Alan B. Lloyd (ed.), *Battle in Antiquity*, The Classical Press of Wales, Swansea, 1996, p. 90.

60 Vd. the table in William K. PRITCHETT, *The Greek State at War: Part IV*, University of California Press, Berkeley – Los Angeles – London, 1985, pp. 47-50.

61 Cf. Thuc. 5.72.3; 7.36.5; 7.52.2; 7. 63.2; 8.104.4-105.1; Xen. *Hell.* 4.2.13; 4.35.3; Peter KRENTZ, «The nature of hoplite battle», cit.; Peter KRENTZ, «The nature of hoplite battle, cit.; cf. A. K. GOLDSWORTHY, «The Othismos, Myth and Heresies: The Nature of Hoplite Battle», *War in History*, 4.1 (1997), pp. 1-26; Hans VAN WEES, «The Development of the hoplite phalanx: Iconography and reality in the seventh century» in Hans van Wees (ed.), *War and Violence in Ancient Greece*, The Classical Press of Wales, Swansea, 2000, pp. 131-132.

62 Everett L. WHEELER, «Land Battles», in Philip Sabin – Hans van Wees – Michael Whitby (eds.), *The Cambridge History of Greek and Roman Warfare. Volume I: Greece, the Hellenistic World and the Rise of Rome*, Cambridge University Press, Cambridge, 2007, pp. 209-211; John E. LENDON, *The Song of Wrath. The Peloponnesian War Begins*, Basic Books, New York, 2010, pp. 307-313.

63 Paul M. BARDUNIAS, «The Aspis: Surviving Hoplite Battle», *Ancient Warfare*, 1.3, 2007; Paul M. BARDUNIAS, «The Mechanics of Hoplite Battle: Storm of Spears and Press of Shield», *Ancient Warfare*, The Battle of Marathon, Special Issue, pp. 60-62; Paul M. BARDUNIAS – Fred



Fig. 3 (left) Stele of Aristion. Foto Sharon Mollerus 2017, CC SA 2.0.

Fig. 4 (right). Probable Spartan hoplite (Vix crater, c. 500 BCE, Châtillon-sur-Seine, Côte-d'Or, France). Foto Oblomov2 2011 CC0 1.0 Public Domain (Wikimedia Commons)

cording to us, should set aside ideological biases – which provide fertile ground to orthodoxy – and undertake a philological re-examination of sources, mindful of the limitations inherent in experimental archaeology. The scholarly debate, or the academic *othismos* on hoplites, is far from resolved.

Eugene RAY, Jr., *Hoplites at War. A Comprehensive Analysis of Heavy Infantry Combat in the Greek World, 750-100 BCE*, McFarland & Company, Jefferson, 2016, pp. 132-138.

The Decline and Fall of Roman Infantry at the End of Antiquity?

by CONOR WHATELY

One of the best known and most highly regarded works of military literature from the ancient world, and the late antique world in particular, is Maurice's *Strategikon*, written around 590 CE. That work was originally 11 books in length, with the focus solely on cavalry. When coupled with that other landmark military text from the sixth century, Procopius' *Wars*, which includes in its preface a detailed comparison of sixth-century mounted archers with the archers of Homer's day, it is easy to get the impression that combat in this late Roman world was one dominated by mounted combatants. In this chapter, however, we will see that Procopius' discussion is a bit misleading. While cavalry had grown in importance, infantry continued to play an important role in the late Roman world of the long sixth century CE, both in combat and beyond.¹

I have chosen to focus my attention on the long sixth century, that is the period from the emperor Anastasius (r. 491-518) to Heraclius (r. 610-641). This century and a half long era is one of the best documented such periods from any period of antiquity, and one which witnessed a considerable amount of conflict in the environs in and around the Roman Empire. The sources for this period and chapter comprise a mixture of evidence from the textual to the documentary.

1 Like the paper of Philip Rance below, there has been some discussion of infantry in the sixth century, though not great deal. Doug Lee (most recently, D. Lee, *Warfare in the Roman World* (Cambridge University Press: Cambridge, UK, 2020) and Michael Whitby and have pushed back against some of the decline long-argued in late Roman armies. Ravegnani (G. Ravegnani, *Soldati di Bisanzio in età Giustiniana* (Juvence: Rome, 1998), G. Ravegnani, *I Bizantini e la Guerra* (Juvence: Rome, 2004), G. Ravegnani, *Soldati e guerre a Bisanzio* (Juvence: Rome, 2009)) and Koehn (C. Koehn, *Justinian und die Armee des frühen Byzanz* (De Gruyter: Berlin, 2018)) have discussed the sixth-century military, but their attention was not on the infantry per se. The same is true for Whitby's more recent book (M. Whitby, *The Wars of Justinian* (Pen & Sword: Barnsley, UK, 2021)), for example.

Over the course of my discussion, I will look at infantry in our primary historiographical sources from Procopius to Theophylact. The military manuals too will merit some attention, the *Strategikon* of Maurice and Urbicius' *Epitedeuma*. On the other hand, while those textual sources are invaluable for investigating the infantry in combat, they are less useful for looking into infantry on the frontiers. To that end, I will also look at the extant epigraphic and papyrological material, which provides some insight into frontier life at the end of antiquity. It is the latter material with which I will begin.

Infantry Soldiers on the Frontier

Our best source for the cavalry units at Rome's disposal at the end of antiquity is the *Notitia Dignitatum*, an ostensibly administrative list (in two parts – east and west) of ranks and units (among other things) for the late Roman Empire.² Its dating, like much else, is contentious, with some advocating a date from the end of the fourth century CE, at least for the eastern list, and others a date in the middle of the fifth century CE.³ As Rance noted, the *Notitia* has nearly twice as many infantry units as cavalry ones, with infantry forming the largest component of two of primary types of soldiers, the *comitatenses*, field army soldiers, and *limitanei*, frontier soldiers.⁴ Rance also notes that the three main types of infantry units in the *Notitia* are the *legio*, *cohors*, and *auxilia palatinum*. I will have more to say about field army soldiers and infantry soldiers in combat in the next section. For the moment, here, I want to turn to the frontier soldiers. Given the detailed treatments by Rance on the infantry in the *Notitia* and Brennan on the *Notitia*'s units overall, this is not the place for any sort of sustained

2 For an overview of the *Notitia Dignitatum* see the many papers of Brennan, like P. Brennan, "The User's Guide to the *Notitia Dignitatum*: the Case of the *Dux Armeniae* (ND Or. 38)," *Antichthon* 32 (1998): 34-49. Much more succinct is M. Kulikowski, "Notitia Dignitatum," in Y. Le Bohec (ed.), *The Encyclopedia of the Roman Army* (Wiley: Malden, MA, 2015), pp. 693-694.

3 For the earlier date, see the arguments of P. Brennan, "The Notitia Dignitatum," in C. Nicolet (ed.), *Les littératures techniques dans l'antiquité romaine* (Geneva, 1996), pp. 147-178. For the later date, see A. Kaldellis and M. Kruse, *The Field Armies of the East Roman Empire, 361-630* (Cambridge, UK, 2023).

4 P. Rance, "Infantry," in Y. Le Bohec (ed.), *The Encyclopedia of the Roman Army* (Wiley: Malden, MA), pp. 532-533.

discussion of the various infantry units found therein.⁵ Rather, then, I want to look more closely at the infantry units in one region, specifically Roman Arabia and Third Palestine (later Arabia Petraea). This region affords us a wide array of sources, which allows a little more insight into their activities in the long sixth century.⁶

Let us start with the *Notitia*. Listed under the command of the *Dux Arabiae*, we find the following infantry (seven) units, in the order in which they are listed (Not. Dign. or. 37): the *Cohors prima miliaria Thracum*, at Adtitha; the *Cohors prima Thracum*, at Asabaia; the *Cohors octava voluntaria*, at Ualtha; the *Cohors tertia felix Arabum*, at in ripa Vade Afaris Fluvii in castris Arnonensibus; the *Cohors tertia Alpinorum*, at apud Arnona; the *legionis tertiae Cyrenaicae*, at Bostra; and the *legionis quartae Martiae*, at Beththoro. By contrast, there are fourteen cavalry units under his (the duke's) command. Under the *Dux Palaestinae*, we find the following infantry twelve units, again presented in order (Not. Dign. or. 34): the *Cohors duodecima Valeria*, at Afro; the *Cohors decima Carthaginensis*, at Cartha; the *Cohors prima agentenaria*, at Tarba; the *Cohors quarta Frygium*, at Praesidio; the *Cohors secunda Gratiana*, at Iehibo; the *Cohors prima equitata*, at Calamona; the *Cohors secunda Galatarum*, at Arieldela; the *Cohors prima Flavia*, at Moleaatha; the *Cohors quarta Palaestinorum*, at Thamana; the *Cohors secunda Cretensis*, at iuxta Iordanem fluvium; the *Cohors prima salutaria*, at inter Aeliam et Hierichunta; and the *legionis decimae Fretensis*, at Ailae. Here, there were eighteen cavalry units listed.

One of the challenges of using the *Notitia Dignitatum* is that not all of the locations given in its various lists have been identified. In the case of Arabia, for example, only seventeen of thirty have been identified.⁷ Two of the three legions

5 P. Brennan, "Units in the *Notitia Dignitatum*," in Y. Le Bohec (ed.), *The Encyclopedia of the Roman Army* (Wiley: Malden, MA), pp 1039-1054.

6 For an insightful look into life and society in this region in the sixth century, see W. Ward, *Economy of the later Roman Province of Third Palestine* (Oxford: Archaeopress, 2024). Ward also provides a good discussion of the available evidence. For an interesting discussion of the relationships between residents, at least for Nessana, which has a significant cache of papyri, see G. Ruffini, "Village Life and Family Power in Late Antique Nessana," *Transactions of the American Philological Association* 141 (2011): 201-225.

7 For a detailed discussion of the identity of the Arabian sites in the *Notitia Dignitatum*, see G. Findlater, *Imperial Control in Roman and Byzantine Arabia: A Landscape Interpretation of Archaeological Evidence in Southern Jordan* (unpublished PhD thesis, University of Edin-

based in the region are located in urban centres, granted ones of modest size. The Tenth Fretensis Legion was based in Aqaba (Aila/e), while the Thirteenth Cyrenaica Legion was based in Bostra, the bigger of the two.⁸ The Fourth Martia Legion, by contrast, was based in el-Lejjūn (Bethoro), which was not much more than a legionary fort and its vicus.⁹ As thorough and extensive as the *Notitia* seems, it leaves out some well-known fortifications. Udruh, for instance, was constructed around the same time as el-Lejjūn, which we know thanks to the publication of its dedicatory stone.¹⁰ The same is true for the well-preserved site of Qasr Bshir, which also has a dedicatory stone dated to the reign of Diocletian (r. 284-305 CE).¹¹ Qasr Bshir was likely the fort for a mounted unit, while the size of Udruh matches that of el-Lejjūn, which points to a legionary garrison.

Mounted soldiers played a big role in the region's frontier activities, yet the very presence of so many infantry units belies the seeming unimportance. As to how precisely they were used, this is a bit more problematic owing, in part, to the lack of clarity about the identity and location of the places where they were based, as noted above. In the case of the legions at Aqaba and Bostra, the function of frontier infantry units is easier to deduce as their urban environments would, in many ways, have been more conducive to soldiers patrolling on foot rather than on horse owing to the narrow streets and confined spaces. While Roman Aqaba is only somewhat preserved, in the case of Bostra, we have the reasonable parallel of Umm el-Jimal.¹² It too had a garrison, likely a detachment of the *Legio III Cyrenaica*, at least for a time during the high imperial period.¹³

burgh, 2004).

8 The site of the Roman fort at Aqaba has not yet been identified. On Roman Aqaba, see T. Parker (ed.), *The Roman Aqaba Project Final Report. Volume 1: the Regional and Environment and the Regional Survey* (ACOR: Boston, 2014).

9 On the site, see T. Parker (ed.), *The Roman Frontier in Central Jordan: Final Report on the Limes Arabicus Project, 1980-1989* (Dumbarton Oaks: Washington, DC, 2006).

10 C. Davenport, "The Building Inscription from the Fort at Udruh and Aelius Flavianus, Tetrarchic praeses of Palaestina," *Journal of Roman Archaeology* 23 (2010): 349-357.

11 *CIL* 3.14149.

12 On Umm el-Jimal, see De Vries (B. De Vries, *Umm el-Jimal: A Frontier Town and its Landscape in Northern Jordan, Volume 1* (JRA: Portsmouth, RI, 1998), for example, though more work continues to be done.

13 See J. Aliquot and M. Hazza, "The Roman Army in Provincia Arabia: Old and New Docu-

A later Latin inscription (mid fourth century CE) perhaps points to the presence of a *vexillatio VIII Dalmatam devotissimam* at Umm el-Jimal.¹⁴ Such a unit is listed in the *Notitia Dignitatum* for the east, and in particular under the *magister militum praesentalis* (Not. Dign. or. 5.37).¹⁵ The *Notitia* does not give us the bases of its *vexillationes comitatenses*, the kind of unit that this Most Devoted Ninth Dalmatian Vexillation is (a cavalry unit). But we have another inscription, which points to the involvement of the unit's soldiers in the construction of a *burgus* (encampment of some sort) on site, and then another pointing to their efforts in construction work at the barracks.¹⁶ While these are not infantry soldiers, given we have infantry soldiers based in similar environments like Bostra, it is reasonable to believe that they might also have been involved in building work like this. Frontier soldiers were often well-integrated into their communities, as the papyri from Nessana make abundantly clear.¹⁷ Sometimes their duties were as mundane as serving as witnesses to legal documents, as some papyri from Egypt attest.¹⁸

Besides their work in construction and related day-to-day activities, it seems likely that a significant part of their time was devoted to security roles within the cities, and one additional piece of evidence provides some clues about their security duties. When Justinian gets into the new garrison of Africa, he distinguishes between two groups of soldiers, the *comitatenses* and *limitanei*. The key to their expected function comes at 1.27.2.8 where Justinian notes that frontier soldiers will be deployed in addition to the field army troops. They are to defend

metns from Umm al-Jimāl (Jordan),” *Syria* 100 (2023): 193-210.

14 Aliquot and Hazza 2023. The *Notitia Dignitatum* lists the unit (assuming it is the same one) under the *magister militum praesentalis* (Not. Dign. or. 5), but gives no location. Of course, a lot can happen in more than a century (depending on the date of the *Notitia*), and the presence of one soldier/inscription is not enough to prove the presence of an entire unit, or at least one unit for an extended period of time.

15 See too R. Scharf, *Foederati. Von der völkerrechtlichen Kategorie zur byzantinischen Truppengattung* (Holzhausen: Vienna, 2001), pp. 190-192 on the Dalmatian units in the *Notitia*.

16 Aliquot and Hazza 2023.

17 On the papyri and Nessana, see R. Stroumsa, *People and Identities in Nessana* (Unpublished PhD Thesis, Duke University, 2008).

18 See, for example, the papyrus P. Muench 16, just one example of many, which lists a few soldiers as witnesses, including a Flavius Isakos, son of Viktor, a soldier of the legion of Philae (and so possibly an infantry soldier himself).

camps and cities (*qui possint et castra et civitates limitis defendere*) and work the land. In turn, they are to be drawn from the provinces, and respond to disturbances (*commitio*) where needed, both with and without the field army soldiers. Those infantry soldiers we find in Arabia and beyond, then, would likely be engaged in similar operations.¹⁹

Infantry Soldiers in Sixth Century Historiography

While there were many frontier infantry soldiers across the empire, there were also many field army soldiers and more, the kinds of soldiers perhaps more likely to see combat. The best way that we have to chart the change in the use of infantry in combat in the sixth-century Roman Empire is to look more closely at how infantry appear in the historians. For this period, the most detailed potential historians that we have are Procopius, Agathias, and Theophylact Simocatta. This is not to say that they are the only historians. Others, like Zosimus, Count Marcellinus, Pseudo-Zachariah, Jordanes, Malalas, Menander Protector, and Evagrius all include military content, but they provide much less detail on the course of battle itself. I should say too, that for the sake of consistency, I have focused only on those that hail from this period, not writers active much later who described sixth century events, like Theophanes.

Zosimus, Jordanes, and Malalas, at some point or other, all provide a detailed account of some battle or other. In Zosimus' and Jordanes' cases, they describe battles that occurred some centuries earlier, like the Battle of Emesa between the Romans and Palmyrenes in 272 CE in Zosimus's *Nova Historia*, or the Battle of the Catalaunian Plains in 451 CE in Jordanes' *Getica*. There tends to be very little in these historians, however, on changes in the use of infantry. To use Zosimus as an example, the word he uses for infantry is some form of *πεζός* (an adjective), and he uses it a few dozen times. Sometimes it means little more than crossing by land or on foot (Zos. Hist. 4.6.5, 4.20.3, 4.39.3). Sometimes it is just to specify the specific type of commander that Zosimus is discussing,

19 For a good, recent, study of frontier soldiers, from around this time, operating in one part of the empire, here Cyrenaica in North Africa, see C. Barthel, *Die Grenzorganisation der spätantiken Kyrenaika. Studien zu den Militärreformen unter Anastasius I (491-518 n. Chr.)* (Zaphon: Münster, 2024).

that is, either a *magister equitum* or a *magister peditum*, as he does at 2.33.3 or a few books later at 5.36.3. When he does refer to infantry units or armies, it tends to be in passing. So, he remarks on Julian admiring his massive army for the invasion of Persia (3.13.1). Often, he just refers to them as a number, like the 150,000 infantry that comprised a big chunk of Licinius' army (2.22.2). Only occasionally does he give any sort of detail about the types of infantry units in operation, like the composition of Aurelian's army at the Battle of Emesa, which included "Dalamatian cavalry, the Moesians and Panonians, and even the Noricans and Raetians, which comprise the Celtic legions. There was, in addition to these, those from the imperial units, chosen from among the best of all" (1.52-3-4). There are more units listed, but these tend to be cavalry, and even of those aforementioned units, the only clear infantry units are the Celtic legions from Noricum and Raetia, though the imperial units, if they are bodyguards, might also qualify. Nevertheless, though not the fully tally of references to infantry from Zosimus, it is representative of the kind of material that he includes. Notably, he does not get into their tactical function, or otherwise, in his descriptions. The closest we get, from this same account of the Battle of Emesa, is the, from our perspective, following throwaway comment: "the whole burden of the battle was borne by the Roman infantry" (1.53.2).

Malalas does provide some detail in his account of the Battle of Callinicum in 531 CE, but little of this gets into the respective proportion of infantry versus cavalry soldiers, for example. The Syriac-writing Pseudo-Joshua the Stylite provided a very detailed account of the conflict between Rome and Persia at the beginning of the sixth century. Pseudo-Joshua's accounts only mention infantry occasionally, however. In his description of an engagement at Constantina/Tella, in the context of siege of Amida, we read of Roman cavalry and infantry flight as battle turns in Persia's favour.²⁰ But whereas the cavalry were able to get away, the same was not true of the infantry who, instead, had to get in a defensive formation in the hopes of holding off their attackers. Pseudo-Joshua calls the formation a "chelone or tortoise", which proved effective. So, there is a little more of value in Pseudo-Joshua, but still a general dearth of material.

20 Ps.-Josh. HE 277.

Infantry Soldiers in Procopius

We now turn to what should be our three most detailed historians, Procopius, Agathias, and Theophylact Simocatta. One of the most celebrated passages in Procopius' *Wars* is his preface, where he compares the archers of his day with those of Homer (*Wars* 1.1.6-15). Notably, contemporary archers were mounted.²¹ Indeed, as you read through his *Wars* you regularly find cavalry playing a dominant role in the narrative, though this is more apparent in some sections than others. All that said, infantry are not absent, a point made some time ago by Rance, and which I charted, to some degree, in a book, where, at that time, I documented 62 references to Roman infantry (i.e. not infantry overall) to 80 cavalry.²² There is no doubt that Procopius refers to cavalry more than he refers to infantry. As I noted earlier, not only does Procopius refer to cavalry more often, but he also is more likely to give precise data with his references to cavalry, so that means close to thirty numbers attached to his cavalry references with close to ten for his infantry cases.²³ Some of the most detailed accounts of cavalry soldiers in action come from his detailed description of the Siege of Rome in 537-538 CE.²⁴ Therein, Procopius regularly refers to the skirmishes outside Rome which often involve cavalry. Procopius' account of the siege serves as the climax of the narrative and the peak of Belisarius' success, and so, given the preface, there is little surprise that he devotes so much attention to the mounted archers.²⁵ His relationships to some of the soldiers he campaigned with, potentially cavalry soldiers themselves, likely had some bearing on the attention devoted to the subject.²⁶

21 Note, for instance, the title to Syvanne's important book (I. Syväanne, *The Age of Hippotoxotai* (Tampere: Tampere University Press, 2004).

22 P. Rance, "Narses and the Battle of Taginae (Busta Gallorum): Procopius and Sixth-Century Warfare," *Historia* 54 (2005): 424-472. See too my tables of infantry (pp. 135-136) and cavalry in the Wars (pp. 137-139) in C. Whately, *Procopius on Soldiers and Military Institutions in the Sixth-Century Roman Empire* (Brill: Leiden, 2021).

23 Whately, 2021, p. 119.

24 On the historicity of his description of the siege, see C. Whately, "Procopius on the Siege of Rome in AD 537/538," in J. Armstrong and M. Trundle (eds.), *Brill's Companion to Sieges in the Ancient Mediterranean* (Brill: Leiden, 2019), pp. 265-284.

25 See C. Whately, *Battles and Generals: Combat, Culture, and Didacticism in Procopius' Wars* (Brill: Leiden), pp. 181-188.

26 On Procopius' sources, see Whately, 2021 pp. 31-57, Rance 2005, D. Brodka, "Prokop von

But, the references to infantry are not insignificant. If you include all references to infantry as some point or other (i.e. not just Roman) there are 71 throughout the *Wars*. We find some of the same varieties of usages as we do with Zosimus. So, as Procopius was writing in Greek just like Zosimus, this means he uses *πεζός*, a word with a long history that went back at least to Homer's *Iliad* (Il. 8.59). For the word's use as infantry or a land force in the case of historiography, it goes back at least to Herodotus (1.80, 4.97) and Thucydides (1.47). Procopius uses *πεζός*, an adjective, in some of the same ways, so on its own substantively to refer to infantry. Though also with a word for army, like *στρατός*, to mean a foot or land army, as he does at 4.2.2, *πεζῷ στρατῷ*. Plenty of the references are just to the number of infantry soldiers present at an engagement like the 1,000 infantry at the Battle of Mt. Bourgaon in North Africa at 4.12.17, or as part of an army, like the 10,000 infantry that made up the Roman invasion army for North Africa listed at 3.11.2, and which outnumbered the cavalry 2 to 1 (not including any private soldiers). Procopius is also the most detailed of these sixth-century (or so – Theophylact is early seventh century CE) historians, at least for military matters, so he also, on occasion, gets into the positioning of infantry units on the field of battle, as he does for the infantry at Callinicum, who are based on the left wing, he says (1.18.26).

Procopius usually does not (or often) give us the identity of Roman units, or any other for that matter. There is one exception, “The *regii*, an infantry unit, were keeping guard there with Oursikinos” (5.23.3, trans. Kaldellis).²⁷ On the other hand, Procopius does regularly tell us the name of the commanders in charge of infantry contingents, so giving us some sense of their organization in particular engagements.²⁸ There are several such cases: there is “the infantry were commanded by one of the spearmen of the emperor Justinian, Petros by name” (1.18.6, trans. Kaldellis); “the infantry was commanded by Theodoros, whom they also called Kteanos, and Terentios, Zaïdos, Markianos, and Sarapis. One Ioannes, a native of Epidamnos which is now called Dyrrachion, held

Kaisareia und seine Informanten. Ein Identifikationsversuch,” *Historia* 65 (2016): 108-124, and L. Mecella 2022, “Procopius’ Sources,” in M. Meier and F. Montinaro (eds.), *A Companion to Procopius of Caesarea* (Brill: Leiden, 2022), pp. 179-193

27 Kaldellis and Kruse, 2023, p. 77 identify the unit as this one from the ND, ND Or. 6.49.

28 For more on the lack of organizational details in Procopius’ oeuvre, see C. Whately 2021.

supreme command over all the leaders of the infantry” (3.11.6, trans. Kaldellis); “Terentios and Sarapis in charge of infantry” (4.15.50); the infantry under Herodianos, Paulos, Demetrios, and Oursikinos for the Italian expeditionary force (5.5.3); Prinkipios and Tarmoutos with a few infantry (5.29.39); 500 infantry from the detachment commanded by Demetrios (6.23.2); the infantry detachments sent on with Liberius (7.39.6); and the infantry of Goubazes and Dagisthaeus (8.8.16). This list might not seem like much, but in the standards of late antique history writing, it is not inconsiderable in terms of the quality of the information.²⁹

Procopius’ text is, of course, all about war and so gives a lot of attention to combat. And, in some of those descriptions, despite what I said above, particularly about the siege of Rome, we do often find infantry playing some role or other in combat. While they do not play much of a role in his description of Dara, we do find infantry in his description of the Battle of Callinicum. Procopius tells us where they were based in the Roman line (on the left, 1.18.26). This battle was, ultimately, a Roman defeat, and when the battle starts to turn in the Persians’ favour, Procopius notes that Belisarius and his men fled and fell back to “the phalanx of infantry, who with Petros were still fighting, although they were not many in number now, as most of them too had fled.” There are other places where infantry play a support role for the cavalry, a point to which they can withdraw if needed. This is what we find in Procopius’ account of the Battle of the River Hippis (8.8.16). Even during the siege of Rome, when the mounted archers are very much the star of the show, the infantry occasionally serve in a supporting role (5.29.37). But it is not just the Romans using their infantry in this way, for in at least one description we find the Goths doing the same thing (8.23.6), with the infantry supporting the Gothic cavalry. In the case of the Goths, they do not end up doing what was needed, staying in good order and opening up to allow their fleeing cavalry some support. Rather, they turn and flee themselves (8.32.18) in the closing stages of the Battle of Busta Gallorum.

Although we might associate cavalry better with smaller operations, in part because of their speed and mobility, there are occasions in the *Wars* where we

29 The best short introduction to Procopius is Brodka’s (D. Brodka, *Prokop von Caesarea* (Georg Olms Verlag: Hildesheim, 2022)). For a longer, varied, discussion of Procopius, see the collected papers in Meier and Montinaro, 2022.

find infantry serving in smaller contingents to perform some sort of specialized task. This is the case in the Battle of Mt. Bourgaon, when the Roman commander Solomon sends Theodoros on ahead with 1,000 infantry to sneak up around the side of the mountain (4.12.17).

One final note: sometimes the infantry appear much as they do in the *Notitia* (or at least as implied) and on the frontier, that is as a garrison for select outposts. So, during the Roman march to Carthage during the invasion of North Africa, Belisarius regularly leaves the infantry behind to garrison assorted camps, as they do not far from Ad Decimum (3.19.1). In his account of the war in Italy, Procopius describes the infantry being dispatched to do similar things, as at Ancona when they are left behind, presumably again as a garrison (6.11.22).

So, while Procopius has been highlighted for his emphasis on cavalry, he is our best source for infantry soldiers in combat in the sixth century. He gives us some sense (even if it is hard to reconcile with comparative material) of how many infantry soldiers might be operating together at any one time, and how they might be deployed in the few pitched battles that we have from the sixth century. Procopius also echoes, at least a little, what we know about how infantry is used on the frontiers, discussed above. And, finally, they serve as a bulwark for cavalry, often being positioned in tight formations (what he sometimes calls a phalanx, as at 1.18.42).

Infantry Soldiers in Agathias and Theophylact Simocatta

Let us turn to Agathias, Procopius' avowed successor. Agathias' *Histories* deals with a much shorter period of time, and Agathias himself had much less firsthand experience with what he describes.³⁰ Nevertheless, as a practitioner of the same sort of history-writing as Procopius, he describes similar things, war and politics, even though there are fewer such descriptions in his account. Agathias does refer to infantry on various occasions, and he too uses a form of the adjective *πεζός*, though we occasionally find the verb *πεζομαχέω*, "I fight an infantry battle", or the noun *πεζομαχία*, an infantry battle, or a battle on land.

As far as the various ways Agathias refers to infantry goes, he does occasion-

30 For a good overview of Agathias, Cameron's book (A. Cameron, *Agathias* (Oxford University Press: Oxford) remains fundamental reading.

ally provide some information about the types of infantry troops used in assorted campaigns and armies, and a mix of both Roman and non-Roman (though sometimes allied) forces. So, he tells us that the Sabirs served as mercenaries who fought for Rome, and they were heavy infantry (3.17.5), but so too the Tzani, who appear in a few places (4.13.2). When presenting the Frankish army early in the narrative, Agathias notes that they had “a mixed infantry and cavalry force of Franks about 2,000 strong” (1.21.4). A few books later, Agathias tells us about a mixed group of Misimians comprising infantry and cavalry and numbering about 600 that came across a small group of Romans (4.16.5).

We also find infantry on the losing end (the Roman infantry) of a charge by (Merovingian) Frankish cavalry (1.21.7), despite making a compact formation (1.21.4). That said, the Romans eventually recover, for Narses then uses a stratagem, feigned flight, and the Frankish cavalry charge, their formation breaks down, and the Romans slaughter the Frankish infantry (1.22). In another context, some Roman infantry manage to keep their structural integrity until they are charged by Persian elephants (3.26.8). As these two examples indicate, more than a few times we find infantry discussed in the context of some sort of dense formation. The most detailed of these descriptions comes in the Battle of Casilinum, where Agathias includes the following description (2.8.4-5, trans. Frendo):

The men in the van clad in mail right down to their feet and wearing especially strong helmets formed a solid wall of shields. The others stood shoulder to shoulder in successive rows, the parallel arrangement extending as far as the rearguard. [5] All the light-armed troops, slingers and bowmen tagged on behind bidding their time to shoot. A place had been reserved for the Heruls in the middle of the phalanx, and it was still empty since they had not yet arrived.³¹

The key word that Agathias uses to denote this compact formation is *συνασπισμός*, which he uses on only one other occasion at 1.21.6: “all of them gathered themselves together, the cavalry and the infantry, and formed a phalanx,

31 ἔμπροσθεν μὲν γὰρ ἐπὶ τοῦ μετώπου οἱ πρωτοστάται θώρακας ποδήρεις ἐνημμένοι καὶ κράνη καρτερώτατα τὸν συνασπισμὸν ἐπεποίητο· ἐξῆς δὲ οἱ ἄλλοι ἐς βάθος ἀλλήλοις ἐνέκειντο, ἕως ἐς τοὺς οὐραγοὺς ὁ ξυλλοχισμὸς ἐτελεύτα. τὸ δὲ ψιλὸν ἅπαν καὶ ἐκηβόλον ὀπισθεν περιέθει καὶ ἀνέμενε τὸν καιρὸν, ἥνικα δέοι ἀκροβολίζεσθαι. ἀπεκέκριτο δὲ τόπος τοῖς Ἑρούλοις τῆς φάλαγγος τὸ μεσαίτατον, καὶ ἦν ἔτι κενός, οὐ γὰρ πω ἐκεῖνοι παρήσαν.

which though not very deep (for this was not possible for they had arrived with exceedingly small numbers), was nevertheless a strong solid mass of shields enclosed in order on the wings”.³²

Even if Agathias does not devote too much space to infantry in combat specifically, in his landmark battle, the Battle of Casilinum, he calls infantry-based warfare as the foundation of the Franks’ approach to warfare: “they use cavalry least of all, save a few impetuously, since it is normal for them to fight infantry battles and which is the hereditary and best custom put in practice” (2.5.4). But, like some of the infantry mentioned in the context of the wars against the Vandals and Goths in Procopius, we find infantry being used as a garrison (3.20.9). Collectively, then, Agathias’ uses of infantry in his *Histories*, though fewer in number, are not unlike those of Procopius.

This leaves us with the last Greek historian of the era, Theophylact Simocatta.³³ In contrast to Procopius and Agathias, his battles tend to be quite vague, and it is often difficult to determine which contingents are participating in any given engagement.³⁴ On that note, it should come as little surprise that he hardly ever uses a word for infantry. And yet, when he does, he uses one of two, not one like the other two historians I just discussed. Rather, Theophylact either uses the adjective πεζός or the adjective πεζικός.

Somewhat surprisingly, a bit like Zosimus (as an example), he will sometimes use one of these words for indicating the specifics of a particular commander, like at the index at 2.19, which is about Asimouth, “the exarch of the infantry force of the Romans”. Later, when he appears in the text, Theophylact characterizes him as “Asimouth, a certain taxiarch (this man led an infantry army campaigning in Thrace)” (2.12.7). As noted, he does not give the size of infantry forces or really say much about their character. To give a couple of ex-

32 ἡθροίζοντο δὲ ἐπὶ σφᾶς ἅπαντες, τό τε ἱππικὸν καὶ οἱ πεζοί, καὶ ἐς φάλαγγα ξυνετάττοντο, βαθεῖαν μὲν οὐ τι μάλα (πῶς γὰρ οἷόν τε ἦν οὐ σφόδρα πολλῶν αὐτοῦ ἀφικμένων;) καρτερὰν δὲ ὁμῶς τῷ συνασπισμῷ καὶ τῷ τὰ κέρα ἐν κόσμῳ ξυννευκέναι.

33 I have left out Menander Protector and John of Antioch, for instance, because their works are too fragmentary (Menander) or do not include enough of this sort of material (John of Antioch).

34 For a detailed study of aspects of Theophylact, see Whitby (M. Whitby, *The Emperor Maurice and His Historian: Theophylact Simocatta on Persian and Balkan Warfare* (Oxford University Press: Oxford, 1988).

amples, at 6.5.9 we read of Priscus retiring to Didymoteichon with the infantry.³⁵ Some books earlier, Theophylact describes a combined body of cavalry and infantry (2.12.11). In a rare moment of numerical precision, at 7.12.4, Theophylact tells us about 30 foot soldiers sent out by the commander Godwin to check on Avars in Dalmatia.

As for how the infantry soldiers are used, this is hard to tease out from his narrative, though there are a few interesting episodes. At 7.2.6, we get an interesting episode where the Roman commander Alexander orders the troops to dismount and essentially to fight on foot; they do this and give and receive missile fire. At 2.18.12, we read of “some brave Roman defended themselves with linked shields and, gradually moving step by step and enhancing their boldness with supreme heroism, led the way for the following troops”. There is yet another example of a raiding party doing just this, dismounting to fight on foot (2.4.5). This dismounting to fight on foot is specific to Theophylact, for we find comparable incidents in Procopius (8.31.5), for example, but in the absence of much other content, it is more pronounced here, to my mind.

But that last example brings to mind another seeming truism of infantry, or soldiers fighting on foot, in the sixth century. When coming up against cavalry, it was imperative to get into a dense formation, as happens at 2.18.12. There is one other example from Theophylact where he describes a similar scene, though here with a seeming mixed group of infantry and cavalry. There, in the course of a pre-battle speech the Roman general Justinian says: “Fortify your line with interlocked weapons, barricade your ranks by the integration of cavalry, fence yourselves round in a harmonious stance, like a building of close-fitting stones. Do not let spears leap from your grasp, strike without being deprived of your weapons” (3.13.11, trans. Whitby). In the case of Theophylact then, his tendencies are not unlike those of Agathias, as we have seen, though with even fewer examples and little characterization of participating infantry units.

35 See M. Whitby and Ma. Whitby (trans.), *The History of Theophylact Simocatta* (Oxford University Press: Oxford), p 165, n. 29, who note that Theophylact gives no hint about what happened to the cavalry, but maybe it withdrew to the Long Walls.

Infantry in Roman Law and Thought

One of the most important achievements of Justinian's reign is the compilation of Roman law. A great deal of that material touches on the Roman military in some way or other. None of it explicitly refers to infantry, though if you dig a little deeper you can find pieces of legislation that have some bearing on Rome's infantry, a little bit of which we saw in the discussion of frontier soldiers. For one thing, legally speaking, Roman infantry soldiers were in no way classified as inferior troops. Rather, at least in the *Code of Justinian*, soldiers were categorized as follows:

Therefore We order that all those who serve under arms, whether of greater or lesser rank – We call soldiers both those who are known to tolerate service under the high Master of Soldiers and those who are counted in the eleven most elevated corps, as well as those who have been decorated as allies under diverse officials – in the future to refrain completely from every lease of property belonging to another.³⁶

Another law from the code, with the generic title of “On Military Matters” (*De Re Militari*), includes a piece of legislation on the process of enlistment, and in particular the *probatoria*, the Roman military's enlistment papers. Right at the beginning, it mentions infantry, only it groups them together with cavalry: “We permit no one hereafter to be enrolled in any unit of cavalry or infantry, or on any frontier” (*Cod. Iust.* 12.35.17, trans. Pazdernik). By this reckoning, the two types of soldiers are considered alike.

The *Novels* (24, 25, 26, 27, 30, 31, 102, 103) are filled with legislation on the garrisons of assorted provinces, but these too do not get into the different kinds of soldiers (infantry vs. cavalry). Finally, *Novel* 116, “Concerning Soldiers”, which is dated to 542 CE, mostly deals with soldiers who are meant to keep barbarians at bay and everyone else in check, but who in fact get deployed on private affairs. So, little in the way of specific mentions of infantry in any of the legislation, but they are very much there behind the scenes.

Perhaps a better and more interesting piece of evidence for getting into late Roman thought on infantry is provided by the anonymous *Dialogue on Political*

³⁶ *Cod. Iust.* 4.65.35.

Science. In the fourth book of this treatise (which only survives in part), the two characters, Thomas and Menas, discuss various aspects of the Roman military. Most important for our purposes is their discussion of the relative merits of infantry and cavalry. Of those two characters, it is Menas who argues that cavalry is secondary to infantry, while Thomas challenges this. Thomas notes it was the infantry that got Rome its power in the early days (4.35). Menas, who by this stage is not really disagreeing with Thomas, notes that other historical kingdoms, like the Persians and Greeks, also expanded with infantry (4.41). But then Thomas goes further with an attempt to show how infantry combat is superior to that involving cavalry (4.46). He then gives a quote which echoes some of the points made above, from ‘the Etruscan Firminus’ (likely Frontinus), who, in regard to infantry, said ““a truly inviolate wall, a living wall, a moving wall, an intelligent wall, an iron wall, a wall not of a single city, as is usual, but of the whole state” (4.47, trans. Bell).³⁷

A better indication of late Roman military thought comes from two of the confirmed sixth century treatises.³⁸ Urbicius’ short *Epitedeuma* contains an invention: “The advantage of this formation will be of particular benefit to the infantry when fighting against cavalry” (2.19-20). It includes spikey points that will in theory wreak havoc on cavalry and potentially injure horses. It does not really give you an indication of how successful and important the infantry was, however. Rather, it is better understood as a response to a particular kind of cavalry threat, in this case the mounted archers.

Finally, we come to Maurice’s *Strategikon*. As is well known by now, this twelve-book work was originally aimed solely at improving the cavalry. It was only after the fact that the book on infantry was added. Not surprisingly, given the work’s reputation, the *Strategikon* is full of useful information.³⁹ At the beginning of this twelfth book, Maurice begins by highlighting the role of both types (infantry and cavalry) in combat. This includes getting into an order of

37 P. Bell, *Three Political Voices from the Age of Justinian* (Liverpool University Press: Liverpool, 2009), p. 135, n. 42.

38 On Byzantine and other medieval military treatises, see the chapters in C. Whately (ed.), *Military Literature in the Medieval Roman World and Beyond* (Brill: Leiden, 2024).

39 For a good recent overview, see M. Whitby, “The *Strategikon* of Maurice,” in C. Whately (ed.), *Military Literature in the Medieval Roman World and Beyond* (Brill: Leiden, 2024), pp. 151-173.

battle useful for combat against cavalry (12A.3), so in a discussion that echoes some of the concerns that come up in the descriptions of Procopius, Agathias, and even Theophylact. It is a few sections later, after the diagrams, that Maurice gets into some of the specifics of these formations, like the use of a convex formation (12A.7).

In the second half of book twelve he turns specifically to the infantry, which has seventeen sections of its own, and among the many things that he includes he discusses the training of heavy infantry (12B.2), the training of light infantry (12B.3), armament of heavy infantry (12B.4), the weapons of light infantry (12B.5), essential equipment (12B.6), soldiers on special duties (12B.7), and the organization of an infantry army (12B.8), among other things.

On the subject of organization, we get hints of this level of detail in some other sixth-century sources, like John the Lydian, but also in the Anastasius edict from Perge.⁴⁰ That incredible, detailed inscription provides lots of information on the ranks within an early sixth century legion, and it provides some details about the subunits.⁴¹ So, the inscription lists *scholae* as potential subunits. Other aspects of the organization of infantry units appear in the historians, for Maurice highlights archers and slingers as components of an infantry army, and we find these types of soldiers listed with infantry in Procopius (infantry archers at 8.32.5, for example) and Agathias (slingers at 2.8.5). As for the type of large unit – and Maurice goes through many possibilities – he regularly uses *tagma* as its name. This is a term Greek historians have long used to mean legion, and it occasionally appears in other probable or actual sixth century contexts.⁴²

Significantly, much like we found in our three historians above, Maurice also cautions against cavalry getting too far ahead of the infantry, or, rather, too far ahead that they cannot fall back to the infantry (12B.13). In fact, in that same section, Maurice also says that if cavalry run into trouble, they should dismount and fight on foot. But, fittingly, he also gets into the dense formations that in-

40 Joh. Lyd. 1.46. On the Perge edict, see F. Onur, “The Anastasian Military Decree from Perge in Pamphylia: Revised 2nd Edition,” *Gephyra* 14 (2017): 133-212.

41 See the tables at Onur 2017, pp. 187-188.

42 See Lefebvre, IGChrEg 592, for example: των στρ(ατιωτικων) ταγματων του Θηβαικου λιμνιου, “of the military tagmata of the Thebaian *limes*”. The aforementioned Perge inscription also mentions a *tagma*, τὸ ὑμέτερον τάγμα[α], “your *tagma*” (Onur 2017, p. 145).

fantry should form in combat, the *foulkon/fulcum*, and how to form it in the first place (12B.16).⁴³ Maurice, then, makes a great place to bring this discussion to a close. For in his work, we find a selection of the points that we find in the accounts of the sixth century historians.

The End of Roman Infantry

Though hardly a conclusive account – as detailed as some of our sources are, there is much we do not know – there is still a great deal we do know about infantry in the sixth century. For one thing, the infantry continued to play a role in Roman combat at the end of antiquity. While infantry could sometimes be used to carry out small-scale operations, in the case of pitched battles in the field or in and around fortifications, the infantry often served as a defensive bulwark and fallback point for retreating cavalry. What is more, given the proper training, it is clear too that infantry could be used effectively to fight off charging enemy cavalry.

It is clear too that infantry played an important role on the frontiers. Unfortunately, in this case, it is not always easy to distinguish the activities of infantry soldiers from cavalry soldiers, the nature of the surviving evidence being what it is. That said, their roles undoubtedly were varied, and the decisions over whether to use infantry or cavalry probably came down, at least in part, to the nature of the terrain and the specific location. Larger and more densely populated centres were often, though not always, garrisoned by infantry soldiers.

43 For more on this, see P. Rance, “The *fulcum*, the Late Roman and Byzantine *testudo*. The Germanisation of Roman Infantry Tactics,” *Greek, Roman, and Byzantine Studies* 44 (2004): 265-326.

Medieval Infantry: A Missing Link

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From the later tenth century medieval armies are almost always described as being made up of *milites et pedites*, usually translated as “knights and foot”, an apparently functional distinction between knights who fought mounted and footsoldiers. But this is a simplification, not least because knights often fought on foot as well as on horseback. In fact, it is a social as well as a military distinction. Historians have spent enormous effort in explaining and understanding the term *miles*, and in particular how, from around 1000AD this word, which in origin simply meant soldier, was usurped and applied to the mounted man, the knight, who thereby has been seen as the medieval soldier par excellence. This does not mean that we fully understand what a knight was; the matter is highly controversial.¹ But at least we have a huge literature and many insights.

By contrast, the literature on medieval footsoldiers is both limited and unbalanced. Much has been written about the infantry of the Italian city-states from the eleventh to thirteenth centuries.² For the period after 1300 the soldiers of the Flemish cities have attracted much attention,³ as have the English bowmen,⁴ while the techniques of the Hussites of the fifteenth century have received much

1 See, for example, D.Barthélemy, *The Serf, the Knight and the Historian* tr. G.R.Edwards of a French original of 1997 (Ithaca: Cornell, 2009).

2 Jean-Claude Maire Vigueur, *Cavalieri e cittadini. Guerra, conflitti e società nell'Italia comunale* (Paris: Il Mulino, 2004), 107-09; Aldo A. Settia, *Comuni in guerra. Armie ed eserciti nell'Italia delle città* (Bologna: Clueb, 1993); Paolo Grillo, *Cavalieri e popoli in armi. Le istituzioni militari nell'Italia medievale* (Rome: Laterza, 2008), 109-28; M.Mallett, *Mercenaries and their Masters. Warfare in Renaissance Italy* (London: Bodley Head, 1974).

3 J.F. Verbruggen, *The Art of Warfare in Western Europe during the Middle Ages* tr. S.Willard and R.W.Southern of a Dutch original of 1954 (Woodbridge: Boydell, 1997).

4 M.Strickland and R.Hardy, *The Great Warbow* (Sutton: Stroud, 2005).

study.⁵ Indeed an infantry revolution has been posited for the later Middle Ages.⁶ But this late medieval focus leaves the subject uncovered for vast chunks of the medieval era which was ushered in by the fall of the Roman Empire. This emphasis arises largely because the sources for earlier periods, and especially before 1000AD, are small in volume and on this topic unhelpful. Record sources are limited, while clerics who wrote chronicles tended to focus on “chaps like us” and to ignore others. Perhaps even more important was the simple fact that war was, for them and their contemporaries, an ever-present phenomenon, and familiar to all were the realities, of recruitment, order and logistics which we would love to hear about. But there is ample evidence that infantry were always important and necessary parts of armies, and that the apparent “infantry flowering” after 1300 should be seen in that light.

The key to understanding medieval armies lies in grasping that they were very different from the armies of Rome, and, indeed, modern armies. Rome collected taxes which were used to equip and pay a standing professional army. But the “barbarians” who broke into the empire in the fifth century were not tribes. In the upheavals along the frontiers they were composites of peoples who gathered in armies around successful war leaders, and adopted the culture of his leading group. This was the process of ethnogenesis which produced the self-identity which the barbarian peoples subsequently proclaimed.⁷ And they were, above all, armies; in fact some had been at one time or another employed by the old Empire.

At the heart of these “tribes” were the warbands, the military leaders who had gathered around a king expecting him to lead them and their people to a degree of prosperity, either by serving Rome or by attacking it. Ultimately they ended up dominating whole areas, and because they lacked any real governmental sense, they naturally adopted the only model they knew, which was Rome. However, the empire was replaced not by a single authority but by a selection of

5 A.Querengässer and S.Lunjakov, *Hussite Warfare. The Armies, Equipment, Tactics and Campaign, 1419-37* tr. R.Sanders (Zeughausverlag GmbH, 2019).

6 C.J.Rogers, “Military Revolutions of the Hundred Years War,” *Journal of Military History* 57 (1993), 241-78, republished in C.J.Rogers (ed.), *The Military Revolution Debate* (Boulder: Westview, 1995), 55-94.

7 Gillet, A., “Ethnogenesis. A Contested Model of Early Medieval Europe,” *History Compass* 4(2006), 241-260.

these groups who, in many cases, fought and succeeded one another, disrupting the bureaucratic organisation that had sustained the empire and its army. In the sixth century the new kings were in a very strong position. Fundamentally this was because Europe was in a very fluid and uncertain state.

The Ostrogoths of Italy, who enjoyed influence over the Visigoths of Spain and their cities on the Mediterranean coast of Provence, were in the sixth century destroyed after a long war by which East Rome recovered dominion in the peninsula, only for a new people, the Lombards, to dominate the north. Under Clovis the Franks eliminated the last trace of Roman power in Gaul in 486, cowed the Thuringians, and in 496 defeated the Alemanni at the battle of Tolbiac after a bloody campaign. In 507 Clovis crushed the Visigoths at the battle of Vouillé and drove them out of Gaul except for the coastal cities of Provence. Only strong resistance enabled the Burgundii and the Bretons to enjoy a degree of independence. By 550 Bavaria was ruled by a Frankish duke.⁸ In this situation armies had to hang together and kings were able to insist that all freemen of their “tribe” were to serve when called to the host.

But the new lands had to be administered, and kings had little option but to rely on the great men around them. They in turn sought command and royal office which could only be legitimately given by the kings. The key office was that of count who administered a sizeable area. However, the Roman administrative machine was complex, and in the key area of paying the army it proved simpler to provide the great men with land or income from land, and to allow them to allocate some of it to their followers. This meant that the authority of the monarch was mediated by great followers who thereby enjoyed a vast degree of autonomy. In this situation the army was originally an ethnic group, privileged by political dominance and the fact that they were not taxed. This status was attractive to the leading elements in Roman society who tended to merge, not least through marriage, and to adopt barbarian identity. In consequence in the course of the sixth century armies ceased to be ethnic, and kings insisted that all freemen should serve. Kings were overlords whose power depended on personality and on their ability to give, or at least to legitimize, the public authority

⁸ For an overview see R. Collins, *Early Medieval Europe 300-1000* (London: Macmillan, 1991).

entrusted to their leading men.⁹ Authority was, therefore, personal rather than institutional. And it was a highly militarized society in which great men and their military servants wielded immense power.¹⁰

In consequence of the absence of tax gathering those who were obligated to serve as soldiers- in principle all free men- had to equip themselves. But the barbarian peoples were not equalitarian, so the logic of this system was that the wealthy would equip themselves lavishly, in particular, with horses with whose value in war the barbarians were well acquainted, while others would act as footsoldiers. Various barbarian codes laid down that men of substance should bring horses to war, but all freemen were obliged to serve. Of course, Roman Law had laid down a clear distinction between “free” and “slave”, but clearly anyone who served in the army had to have land, so this became the great divide. The barbarian armies, and in particular the Franks, were composed of infantry and cavalry, but while together they formed a dominant section in a wider society, they were themselves divided by status and wealth, so the terms cavalry and infantry were not simply functional military labels, but represented a distinction in social status which was reflected in the military equipment they could afford.

Some of our best descriptions of early medieval western armies in the sixth century were provided by accounts of the attempt in 535 by the Eastern Emperor to take advantage of disunity amongst the Ostrogoths to reconquer Italy. The result was a very long war which is largely known to us from the works of Greek historians, Agathias and Procopius. The Ostrogothic army seems to have been very like that of the Romans.¹¹ By contrast, both Procopius and Agathias felt the need to explain the military methods and weapons of the Franks, something they did much less for the Ostrogoths, the Visigoths of Spain or later the Lombards who invaded Italy. According to Procopius the axe called *francisca*, was a special weapon of the Franks:

9 M.Innes, *Introduction to Early Medieval Western Europe, 300-900. The Sword, the Plough and the Book* (London: Routledge, 2007), 284.

10 Bennett, Ellora, G.M. Berndt, S. Esders and L.Sarti (eds), *Early Medieval Militarisation* (Manchester: Manchester University Press, 2021).

11 Procopius, *History of the Wars* tr. H. B. Dewing Loeb Classical Library. 7 vols (Cambridge, Mass.: Harvard University Press. London, 1924) 7; Agathias, *The Histories* tr. J.D. Frendo (Berlin and New York: de Gruyter, 1975).

..each man carried a sword and shield and an axe. Now the iron head of this weapon was thick and exceedingly sharp on both sides while the wooden handle was very short. And they are accustomed always to throw these axes at one signal in the first charge and thus shatter the shields of the enemy and kill the men.¹²

Agathias mentions the Franks' use of javelins, but was struck by their use of a spear called an *angon* which they threw against an enemy so that it shattered his shield or at least weighed it down.¹³ Quite how common such relatively expensive weapons were is hard to say; perhaps they were used by elite warriors in the front ranks. Their use would suggest that Frankish warriors picked out individual enemies so positing a relatively open formation. Such weapons tend to vanish over time, and we know that battles often became things of close order with swords and spears. The Franks certainly used the bow - Leudast, Count of Tours, is credited with having one by Gregory of Tours, but its systematic use is not described.¹⁴ Agathias quite admired the Franks, not least because he thought that although they often had more than one king, they refrained from civil war and settled differences peacefully.¹⁵

According to Agathias the Franks were almost entirely infantry, but his statement "Rarely if ever do they use horses" can hardly be accepted at face value, not least because earlier in his work he reported that these same Franks in Italy at one time deployed a mixed force of 2000 cavalry and infantry.¹⁶ Gregory of Tours records that in the battle of Vouillé Charles Martel was mounted.¹⁷ And in the Frankish lands horse burials have been found associated with elite figures, and there is evidence of stud farms. Similarly, Agathias' assertion that the Franks fought naked, except for a few who had helmets, flies in the face of weaponry and armour found as grave-goods, and of historical descriptions of armoured Franks.¹⁸ Gregory of Tours, for example, describes Leudast swaggering

12 Procopius, 6:25,1, 85.

13 Agathias 2:15,35-36.

14 Gregory of Tours, *The History of the Franks* ed. L.Thorpe (Harmondsworth: Penguin, 1974), Book 5, Chapter 48.

15 Agathias,2: Book 1, 10-11.

16 Agathias,2, 37; Book 1, 30-31.

17 Gregory of Tours, 2.37, 154.

18 M.-C.,Truc, "Probable Frankish burials of the sixth century AD at Saint Dizier (Haute-Marne, Champagne-Ardenne France," in *The Very Beginning of Europe? Cultural and So-*

around Tours “in his cuirass and mail shirt”.¹⁹ Gregory also records that when a Burgundian force was defeated by the Goths on the Aude in 589 the horsemen scrambled to escape but the Goths took “all the foot-soldiers prisoner.”²⁰ In fact, it seems that in these general comments Agathias and Procopius were reflecting Greek traditions of condescending to mere savages. It is possible, however, that they were influenced by the growing proportion of cavalry in contemporary Roman armies, and the fact that the Franks had fewer horsemen and lacked the relative uniformity of Roman equipment.

By and large armies were relatively small. The East Roman army which attempted the conquest of Italy in 535 was about 5000 strong, but from time to time a great effort was made so that in 552 a force of 25000 was sent which triumphed in 552 over the Ostrogoths at *Busta Gallorum*. The eastern empire had a very large army with many commitments, but this pattern of relatively small forces and occasional major efforts seem to characterise medieval warfare in the west also. In a society increasingly dependent on agriculture it took time to accumulate the means to raise and sustain big forces. And, of course, in Europe armies were agglomerates. Kings had to persuade their great men, who had their own armed retinues and held offices vital to the calling together of armies of freemen, to join them.

It does seem that Frankish armies were overwhelmingly infantry but their elite made use of horses.²¹ In 641/42 at the battle of Autun the Neustrian noble, Berthar observed a friend, Manaulf in the opposing Burgundian ranks and offered to shelter him under his shield - alas, Manaulf having agreed, stabbed his benefactor. This was clearly fighting on foot, but the victorious Neustrians found many horses in the enemy camp.²² In 762 the Aquitanian rebels under Mancio ambushed a Frankish force near Narbonne but soon fled, leaving their horses as booty for the enemy.²³

cial Dimensions of Early-Medieval Migration and Colonisation (5th-8th century) (Brussels: Flanders Heritage Agency, 2012), 51-56

19 Gregory of Tours 5:48, 315.

20 Ibid. 9:31, 517-18.

21 *Fourth Book of the Chronicle of Fredegar and Continuations*, ed. J.M. Wallace-Hadrill (Edinburgh: Nelson, 1960), 38, 31-33.

22 Fredegar, 73-74.

23 Ibid. 113.

The horsemen were clearly an elite and we assume they were drawn from the ranks of royal and noble retinues. The royal *antrustiones* were key fighting men of the king and they enjoyed a privileged status in Frankish law. If a free Frank killed one of his equals, he was liable for a *werigild* (blood money payable to relatives) of 24000 *denarii*. But if he killed an *antrustion* he owed 72000 *denarii*.²⁴ But clearly this elite fought on foot as well as on horseback. During a major struggle over the royal succession in 612, Theuderic defeated his brother, first at Toul and then at Zülpich where “the carnage on both sides was such that in the fighting line there was no room for the slain to fall.” This strongly suggests infantry warfare. Theudebert was captured but not killed though his small son was seized and a soldier “dashed out his brains on a stone.”²⁵ By contrast the Lombards were famed as horsemen, and as late as the eighth century their laws placed considerable emphasis on mounted men. However, this did not invariably bring success. In 572 they attacked Burgundy and at first enjoyed great success in routing the Burgundian army and collecting great booty. But when they returned a skilful Burgundian general, Mummolus, blocked the roads and ambushed them.²⁶ The Visigoths of Spain were as Romanised as their Ostrogothic allies, but their monarchy never recovered its prestige after being driven out of Aquitaine by the Franks after the battle of Vouillé in 507. Moreover, the expansion into Spain had been driven by individual enterprise and not royal leadership. There is no doubt that their great men led mounted retinues, but the monarchs called out slaves from their estates for war. We may suppose that slaves were infantry.

At the start of the seventh century the Franks appear as the strongest people in Europe with a very powerful sense of unity centred on the Merovingian kings, a strength all the more surprising in that they were divided between the kingdoms of Neustria-Burgundy and Austrasia, each of which suffered succession disputes. They dominated much of what is now western Germany, the whole of Gaul and some parts of northern Italy. In 631 Dagobert (623-39) had been

24 *Laws of the Salian Franks*, tr. K.F.Drew (Philadelphia: University of Pennsylvania, 1991), LXIII p.124.

25 *Fredeggar*, 31-33.

26 Gregory of Tours, 236-37; *The Lombard Laws* ed. K.F.Drew (Philadelphia: University of Pennsylvania 1973), Aistulf, 21.



Fig. 1. Shield boss from the Warrior's Grave of Boffalora d'Adda – photo by James Steakley— Fig. 2. Saint-Dizier (Haute-Marne) grave 11. Germanic Futhark or Anglo-Saxon Futhorc runic inscription alu on Bifrons-Gilton type ring sword pommel carved then effaced and replaced with niello ornaments. Wikimedia Commons.

strong enough to install Sisenand as king of the Visigoths of Spain for the price of 200000 gold solidi.²⁷

But after 639 this hegemony weakened. The Merovingian kings suffered a series of minorities, provoking factional struggles which focussed on the post of Mayor of the Palace which controlled access to the king. In 613 the rise of Clothar II (584-623) to sole kingship of the Frankish lands had owed much to two magnates whose descendants were the Carolingians, “the faction of Arnulf, Pipin and other magnates.”²⁸ They are recorded as having very substantial lands in Austrasia. The emergence of such powerful magnates and the violent factional conflict of the seventh century in the Frankish land has tended to emphasise in the minds of historians the importance of elite warriors in the followings of such men, with some assumption that they were cavalry. This is a reasonable inference but the nature of armies at this time is concealed from us. A critical phase of the struggles culminated in the battle of Bois du Fay, c.680, which the *Continuation of Fredegar* describes as “a great battle,” while the *Liber Historiae Francorum* reports that “A countless number of people fell there.”²⁹ But we have no account of the part played by either infantry or cavalry.

27 Collins, *Early Medieval Spain*, 111.

28 Fredegar, 32-33 and see 123.

29 Fredegar, 83; *Liber Historiae Francorum* Translated by B.S.Bachrach (Lawrence, KA: Coronado, 1973), 105.

In fact the interest of modern military historians for eighth century shifted almost entirely to tracing the development of cavalry. This was largely prompted by the anxiety to explain the extraordinary success of the Carolingian family, and in particular Charlemagne, under whom the Franks came to dominate all the other peoples of Europe. The idea arose that he and his predecessors owed their dominance to the “invention” of shock cavalry by their ancestor, Charles Martel the Mayor of the Palace 718-41. This idea was made possible by the limited, but suggestive, evidence gathered by Brunner.³⁰ The notion that Charles Martel developed shock cavalry and the social structure of feudalism to support it, was bolstered by the idea that the stirrup became diffused at about the same time,³¹ and as a consequence held sway for a very long time. It seemed to represent the last word on Carolingian military affairs which discouraged further research.³² Moreover there are very few descriptions of armies in action, but mention of *scara*, fast moving groups, seemed to suggest cavalry. In 782, during the reign of Charlemagne, such a group met with disaster in a passage which, however, suggests that cavalry tactics were well established. This group, with distinguished leaders, were diverted from their attack on Slavs by a Saxon uprising. As a result of jealousy amongst the leaders when they attacked the Saxon in the Süntel mountains:

They took up their arms and, as if chasing runaways and going after booty instead of facing an enemy lined up for battle, everybody dashed as fast as his horse could carry him for the place outside of the Saxon camp where the Saxons were standing in battle array. The battle was as bad as the approach. As soon as the fighting began they were surrounded by the Saxons and slain almost to a man.³³

Bernard Bachrach made the first serious challenge to this cavalry consensus,

30 H.Brunner, “Der Reiterdienst und die Anfänge des Lehnwesens,” *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte. Germanistische Abteilung* 8 (1887), 1-38.

31 L.White, *Medieval Technology and Social Change* (Oxford: Oxford University Press, 1962); P. Sawyer and R. Hilton, ‘Technical Determinism, the Stirrup and the Plough’, *Past and Present* 24 (1963), 90-100.

32 For a fine study of the “Brunner thesis” see K.Devries and R.D.Smith, *Medieval Military Technology* 2nd edition (Toronto: Toronto University Press, 2012), 99-114, and for its place in historiography J.France, ‘Recent Writing on Medieval Warfare: From the Fall of Rome to c.1300’, *Journal of Military History* 65 (2001), 441-73.

33 B.W.Scholz and B.Rogers, “Royal Frankish Annals,” in *Carolingian Chronicles* (Ann Arbor: University of Michigan, 1972), 60.

effectively demolishing the foundations upon which it rested. More relevantly here, he pointed out that Charlemagne's wars turned largely not on field warfare but sieges. In this he was undoubtedly correct, as, for example, the *Royal Frankish Annals* for 776 record he "suddenly broke through the fortifications of the Saxons."³⁴ Siege is a labour intensive activity and armies which undertook them must of necessity have included many infantry, and have been quite large.³⁵ And he was able to show that the Capitularies of Charlemagne demanded service not only from the well to do and vassals of the great, but also from relatively humble men, who were possessors of 4 *mansi* of land or even less but could club together with fellows to produce a single well-equipped soldier who was clearly not a cavalryman. A very notable statement occurs in a Capitulary of 808 indicating how deeply it reached into society:

That every free man who has four occupied [i. e., cultivated] mansi of his own or in benefice from another should equip himself and go on his own behalf to join the host, either with his lord (if his lord goes) or with his count. A man who has three mansi of his own should be joined by someone who has one and who can give him assistance so that he can go on behalf of both. A man who has only two mansi of his own should be joined by someone who also has two, and one of them should go to join the [army], with the other giving him assistance. A man who has only one mansus of his own should be joined with three others in a similar situation who can give him assistance: he alone should go, and the three who give him assistance should remain at home.³⁶

This points to the existence of a known group of peasant landholders with adequate means to equip themselves for war. As this kind of provision is repeated several times with variations, the very insistence on such provisions argues that infantrymen were valuable and needed in the army and practised in warfare. Those who served, as Goffart has pointed out, were not poor, but relatively prosperous people who by clubbing together produced subsistence and perhaps equipment for the one who went to war.³⁷

34 Ibid. 55.

35 B.S.Bachrach, 'Charles Martel, Shock Combat, the Stirrup and Feudalism', *Studies in Medieval and Renaissance History*, 7 (1970), 47-75. He developed his ideas in his *Merovingian Military Organization, 481-751* (London: Oxford U. P., 1972).

36 H. R. Loyn and J. Percival, *The Reign of Charlemagne. Documents on Carolingian Government and Administration* (New York, St Martin's Press, 1975), 96.

37 W.Goffart, "Defensio Patriae as a Carolingian Military Obligation," *Francia* 43 (2016),



Fig. 3. Frankish warriors from the Stuttgarter Psalter, Württembergische Landesbibliothek, Digitale Sammlung, *Cod. Bibl.* Fol. 13r, 47v, 42v, 46v (Published in Saint-Germain-des-Prés in the year 801 CE).

However, although such regulations are repeated several times and in several forms, they all occur in documents dating from after 800. Reuter suggested, therefore, that in the earlier part of his reign, when expansion was so rapid, fast-moving groups of cavalry, like that of 882, were the agents of expansion, but that after about 800 the empire was on the defensive and had to call up broad masses of men to defend what had been won.³⁸ Reuter argued that the armies

24-26 [21-39].

38 T.Reuter, 'Plunder and Tribute in the Carolingian Empire', *Transactions of the Royal Historical Society* 35 (1985), 75-94 and 'The End of Carolingian Military Expansion' in P.Goodman

with which the Carolingians made their remarkable conquests were not so very different from those of the Merovingians, consisting primarily of great leaders, the *leudes* as they had been called in the Merovingian sources, with their war-bands of professional followers.³⁹ Such men, he suggested, went to war to profit from plunder, either by taking it themselves or receiving a share doled out by their leaders and ultimately by the king. Beneficed vassals of the king were a small element in these forces because they were the great men who led them. The majority were paid warriors, often landless, marching to war as predators in the followings of the great in the hope of gain. This sounds very neat, but the Capitularies post 800 which speak of lesser people refer to explicitly aggressive warfare, notably in rules about provisions:

men are to have provisions for three months from crossing the border and arms and clothing for half a year. But it has been decided that this is to be observed as follows: the Loire is to be accounted the starting-point for provisioning for those who travel from the Rhine to the Loire; those who go from the Loire to the Rhine are required to have three months' provisions from the Rhine; those who live across the Rhine and march through Saxony are to know that the border is at the Elbe; and those who dwell across the Loire and have to advance into Spain are to recognise the mountains of the Pyrenees as their border.⁴⁰

Elite warriors, even if in the service of lords were required to join and although horsed had to bring bows and arrows which suggests that they were not simply horse-soldiers but warriors prepared to fight also on foot.⁴¹ As the Boulogne Capitulary makes clear, Charlemagne also summoned elite warriors through their lords, marking an acceptance of their military power.

But there was another theme in the Capitularies which probably influenced Reuter and those who followed him. It is evident from the repeated insistence on fines for non-attendance at the host that many were unwilling or unable to

& R.Collins (eds), *Charlemagne's Heir: New Perspectives on the Reign of Louis the Pious (814-40)* (Oxford: Clarendon, 1990) 391-405; 'Carolingian and Ottonian Warfare', in M.Keen (ed.), *Medieval Warfare. A History* (Oxford: Oxford University Press, 1999), 13-35.

39 T.Reuter, 'Plunder and tribute in the Carolingian Empire', *Transactions of the Royal Historical Society* 35 (1985): 75-94; 'The End of Carolingian Military Expansion', in P. Godman and R. Collins (eds), *Charlemagne's Heir: New Perspectives on the reign of Louis the Pious (814-40)* (Oxford: Clarendon, 1990), 391-405.

40 Capitulary of Boulogne in P.D.King (ed.), *Charlemagne: Translated Sources* (Kendal, 1987).

41 *Capitularia Regum Francorum* ed. H.Boretius and V.Krause (Hanover: MGH, 1881), 1: 123, 290-91.

fulfil their obligations. It is generally recognised that the Carolingians increased the power of the magnate class by incorporating its members into their government.⁴² At the same time the organisation of estates was improving to the advantage of great landowners and it seems as if in the process the distinction between free and unfree was being eroded.⁴³ And the burden of military obligation was, according to the Capitulary of Aachen of 811 manipulated to their own advantage by the wealthy in the government:

That poor men complain that they are deprived of their property and make this complaint equally against the bishops, abbots and their advocates and against the counts and their hundredmen. They also say that if a man refuses to give his allod to a bishop, abbot or count, or to a judex or hundredman, these seek opportunities whereby they can harm that poor man and make him go on every occasion to the army, until he is impoverished and hands over or sells his allod, like it or not, while others, who have handed theirs over, stay at home without any trouble.⁴⁴

The combined effect of these processes was to erode the “freedom” and social standing of free peasants, to transform many of them into tenants and thus to demilitarize them, or at least to place their military competence at the disposal of their lords. In 859:

The Danes ravaged the places beyond the Scheldt. Some of the common people living between the Seine and the Loire formed a sworn association amongst themselves and fought bravely against the Danes on the Seine. But because their association had been made without due consideration, they were easily slain by our more powerful people.⁴⁵

Peasants could fight, even against such formidable enemies as Vikings, but that was a very secondary consideration by 859. A few years later Charles the Bald revealed his difficulties with the great men who were preventing people from coming to the host and:

42 C. West, *Reframing the Feudal Revolution. Political and Social Transformation between Marne and Moselle, c.800-c.1100* (Cambridge: Cambridge University Press, 2013), 50-79.

43 R. Fossier, *Polyptiques et censiers* (Turnhout: Brepols, 1978); N. J. G. Pounds, *An Economic History of Medieval Europe* (London: Longman, 1974), 49-53.

T. Williamson, “Agriculture, Lords and Landscape in Medieval England,” in H. Hamerow and M. McKerraker (eds), *New Perspectives on the Medieval Agricultural Revolution. Crop, Stock and Furrow* (Liverpool: Liverpool University Press, 2022), 211-34.

44 King, *Charlemagne*, 264.

45 J.L. Nelson (ed.), *The Annals of St-Bertin* (Manchester: Manchester University Press, 1991), 89.

And it is our wish and express command that if anyone has built castles, fortifications or palisades at this time without our permission, such fortifications shall be demolished by the beginning of August, since those who live nearby and round about are suffering many difficulties and robberies as a result.⁴⁶

In the French kingdom, England and Italy the disappearance of a free peasantry and their replacement by the tied or semi-tied villein had military causes and military consequences. But it was not an even process. In the German lands it happened much more slowly, so that free peasant soldiers continued to exist there in the eleventh and early twelfth centuries.⁴⁷ In Spain the shortage of people on the frontier produced a militarised society where townspeople enjoyed considerable rights.⁴⁸ Even in France many, some whole provinces, escaped the subjugation and settlers in the empty lands of eastern Europe were highly privileged. And it should not be thought that peasants were disarmed. As Henry I of England became unpopular he is said to have suffered terrible dreams of uprisings against him. The first of these was of armed and raging peasants, followed by angry knights and then churchmen.⁴⁹ In 1181 Henry II issued the Assize of Arms which clearly expected even people of modest status to have weapons.⁵⁰

What do we know of the part played by infantry in warfare in the early middle ages? When Clovis defeated the Visigoths at the battle of Vouillé in 507 he was mounted, but almost killed by two Gothic infantrymen:

But it was his leather corselet which saved him and the sheer speed of his horse.

The only sustained account of Franks in action is Agathias' description of the battle of Volturno in 554. Theudebald (548-55) of Austrasia encouraged a large Frankish and Alemannic army to invade Italy. A large element, including

46 *Edict of Pîtres*, trans. Simon Coupland consulted on 08.04.25 at https://www.academia.edu/6680741/The_Edict_of_Pitres_translation.

47 D.S.Bachrach, "Feudalism, Romanticism, and Source Criticism: Writing the Military History of Salian Germany," *Journal of Medieval Military History* 13 (2015), 1-26.

48 E.Lourie, "A Society organized for War: Medieval Spain," *Past and Present* (1966), 54-76.

49 J.Collard (2010) 'Henry I's dream in John of Worcester's Chronicle (Oxford, Corpus Christi College, MS 157) and the illustration of twelfth-century English chronicles'. *Journal of Medieval History*, 36:2, 105-125.

50 "The Assize of Arms", in C.Stephenson and F.G.Marcham, *Sources of English Constitutional History* (London: Harper, 1937), 85-86.

all the cavalry, left Butilinus in southern Italy. He realised that a large Roman force under Narses was marching south against him. He built a strong earthwork camp on the north bank of the Volturno river and fortified the bridge giving access to the south from which he drew supplies. Quick action by the Roman cavalry enabled Narses to seize the bridge, cutting off the enemy supply route, so Butilinus arrayed his men for battle, encouraged by false information that elements in the Roman army were defecting. His army, which was entirely on foot, attacked the enemy in what Agathias describes as a wedge formation, something like a hollow “V”, falling upon the centre of the Roman army. This may have been a deliberate formation or simply the effect of troops in the centre moving faster than the rest of the army. The best troops commonly gathered around their commander, who was expected to lead. Narses had adopted a conventional tactical formation with his infantry in the centre and cavalry covering them on both wings, although those on the left were concealed in woods. The Romans absorbed the shock of the charge and their cavalry then closed around the Frankish flanks and rear, leading to a massacre.⁵¹ The Franks had lost, but the establishment of a fortified camp and the subsequent battle formation showed they were a coherent army obedient to their commander whose basic ideas were sensible.

In 732 the Muslims of Spain launched a major raid into Gaul where Charles Martel defeated them in a battle between Poitiers and Tours. The best account we have suggests that the Franks were largely infantry standing in mass formation, but the description is vivid rather than precise:

He confronted the consul of Austrasia by the name of Charles, a man who, having proved himself to be a warrior from his youth and expert in things military...After each side had tormented the other with raids for almost seven days, they finally prepared their battle lines and fought fiercely. The northern peoples remained as immobile as a wall, holding together like a glacier in the cold regions. In the blink of an eye, they annihilated the Arabs with the sword. The people of Austrasia, greater in number of soldiers and formidably armed, killed Abd ar-Rahnan when they found him, striking him on the chest.⁵²

51 Agathias, *The Histories* tr. J.D. Frendo (Berlin and New York: de Gruyter, 1975), 2: 35-43.

52 Anonymous, *The Chronicle of 754 in Conquerors and Chroniclers of Early Medieval Spain* tr. K.B. Wolf (Liverpool: Liverpool University Press, 1999), 145.

Charlemagne enjoyed much success in his wars, and given the importance of siege his infantry must have performed well in the many lands they entered. But in 775, near Lübbecke, they suffered a rebuff:

When the Frankish foragers returned to the camp about the ninth hour of the day, Saxons mixed with them as if they belonged to them and thus entered the camp of the Franks.⁵³

The subsequent fighting was evidently indecisive, and the Saxons were allowed to withdraw. Evidently Frankish and Saxon soldiers looked very much alike. But in the following years Charles' armies ranged far and wide, and sometimes he mobilised more than one force at the same time, enjoying extraordinary success. The year 793 was a difficult one. His forces in Frisia and northern Spain suffered defeats, Saxons rebelled yet again, and his effort to build a canal between Rhine and Danube in preparation for a campaign against the Avars failed.⁵⁴ But overall his armies were successful and this suggests that his infantry force was competent, which is surely why legislation after 800 so insists upon it.

And the indications are that the system of call-up persisted for much of the ninth century in West Francia. As already noted the people of northern France were well able to defeat the Vikings even if their masters did not wish them to do so. In 865 Charles the Bald imposed the *heribann*, originally a fine for failure to attend the army, as a tax to pay off the Vikings. This suggests that lists of those eligible to serve were still maintained, and in 869 he called for warriors to club together to serve, very much on the model of Charlemagne though there are indications that his important followers as vassals were involved in arranging this.⁵⁵ And in 865 the king was dependent on the bishops for soldiers.

Our information about the conduct of warfare in the ninth century is generally very limited and references specifically to infantry few. The St Bertin annals report that in 844 the Danes of Galicia were defeated by "missile throwers": this does sound like infantry but relates to a distant place.⁵⁶ In fact references suggest a heavy reliance on cavalry. When the Emperor Lothar confronted his

⁵³ *Royal Frankish Annals*, Year 775, 51-52.

⁵⁴ *Royal Frankish Annals*, Year 793, 71-72.

⁵⁵ St Bertin, Year 859, 135; 865, 130; 856, 69; 869, 153-54.

⁵⁶ St Bertin, Year 844, 60.

brothers, Charles and Louis at Fontenoy on 25 June 841 the latter were very concerned by their “lack of horses” and offered Lothar lavish gifts “with the exception of arms and horses.” This lack of cavalry may well explain why they took up position on “the peak of a mountain” to await Lothar’s attack. Given their shortage of cavalry this implies the allies were on foot, but it is pretty nebulous. In the event they were victorious, but presumably their infantry were reinforced by elite troops of their noble adherents; we simply lack information. After victory Charles and Louis decided not to pursue the enemy, but perhaps this was because they lacked horses.⁵⁷ Subsequently at Strasbourg the two brothers celebrated with military games, confined to those on horseback. Lothar then offered support to the *Stellingae*, the freemen and freedmen who had lost status when the Franks collaborated with the nobility to rule Saxony. Given their lack of status they must have been infantry, and they were soon defeated.⁵⁸

Amongst the East Franks there are indications of quite large armies. In 858 and 869 King Louis the German raised no less than three armies, and overall he was a very successful military leader.⁵⁹ The battle of Andernach in 876 was an attempt by Charles the Fat to take by surprise his nephew Louis the Younger. This was a major confrontation but it seems to be presented as a cavalry battle.⁶⁰ Louis ordered his army with the Saxons in the middle so it is possible this element in his army was on foot, but we simply do not know. In 891 King Arnulf cornered a Viking army in their camp on the Dyle, and we are told that because of an intervening swamp the Franks were ordered to dismount and approach the enemy *pedetemptim* which they were not used to doing. This had long been taken as meaning Franks were not used to fighting on foot until Bachrach showed that it meant carefully or step by step.⁶¹ At the very end of the ninth century King

57 Nithard, “Histories”, in *Carolingian Chronicles*, Year 841, 152-54.

58 E.J. Goldberg, “Popular Revolt, Dynastic Politics, and Aristocratic Factionalism in the Early Middle Ages: The Saxon *Stellingae* Reconsidered,” *Speculum* 70 (1955), 467-501.

59 *Annals of Fulda* ed. T. Reuter (Manchester: Manchester University Press, 1992), 858 and 869.

60 Clifford J. Rogers, “Carolingian Cavalry in Battle: the Evidence Reconsidered,” in *Crusading and Warfare in the Middle Ages, Realities and Representations. Essays in Honour of John France*, eds. Simon John and Nicholas Morton (London, 2014), 8-9 [1-12]; C. Flynn, “The Battle of Andernach (876) in Carolingian Sources”, *Journal of Medieval Military History* (2026), forthcoming.

61 D.A. Bullough, *Europae Pater: Charlemagne and his Achievement in the Light of Re-*

Arnulf stormed Rome and the Fulda Annals say this was done by the *populus*, not merely by notables and their followings. This strongly suggests an infantry element in the German armies based on a known and recorded military group who were at the disposal of the king.

In Germany the great duchies became more and more entrenched.⁶² But the monarchy was able to assert itself by victories over the Hungarians, steppe horse-archers who launched devastating raids across much of Europe. Henry I built up a cavalry force capable of meeting them in the field, and at the same time imposed infantry service on his *agrari millites* in a network of new fortifications.⁶³ Before the battle of Riade in 933 Henry instructed his cavalry:

When you sally out to the field of battle let noone ride faster than another but keep together. The shields of each should guard his neighbour so that they can receive the first volley of arrows from the enemy [Hungarians]. Then charge very fast before the enemy can fire again for the weight of your armour will prevail.⁶⁴

In 954 Otto I crushed the Hungarians at the battle of the Lechfeld in which cavalry played a major role. But it was the ruthless harrying of the defeated by his garrisons which really destroyed them.⁶⁵

In descriptions of warfare in the ninth and tenth century chroniclers often emphasise the role of elite warriors - to whom, of course, they were related. They also tend to draw on classical models in describing events, not least battles. But it is clear that amongst the East Franks infantry remained very important. But the growing importance of the great nobility suggests that they exercised powerful influence over the military class in their regions. Much importance has been attached to a famous passage by Regino of Prüm:

cent Scholarship', *English Historical Review* 85(1970), 84-90; B.S.Bachrach, 'Charles Martel, Shock Combat, the Stirrup and Feudalism', *Studies in Medieval and Renaissance History*, 7 (1970), 47-75. See also G.Halsall, *Warfare and Society in the Barbarian West, 450-900* (London: Routledge, 2003), 186-88.

62 J. Gillingham, "The Kingdom of Germany in the High Middle Ages," *Historical Association Pamphlet G.77*, 1971.

63 C.R.Bowlus, *The Battle of Lechfeld and its aftermath, August 955* (Aldershot: Ashigate, 2006), 45-72, 183-85.

64 Widukind, *Rerum gestarum Saxonicarum* ed. G.Waitz (Hannover: MGH, 1882), Year 933.

65 Bowlus, *Lechfeld*, 97-129.

In the year of the Lord's Incarnation 882, the Northmen advanced through the Ardennes and entered the monastery of Prüm on the very day of the Lord's Epiphany [6 January], and stayed there for three days and pillaged the whole of the surrounding region. In that place a countless multitude from the fields and farms gathered together on foot as one crowd and approached the Northmen as if they were going to fight them. But when the Northmen saw that this crowd of common people were not so much unarmed as bereft of military training they rushed upon them with a shout and cut them down in such a bloodbath that they seemed to be butchering dumb animals rather than men.⁶⁶

Clearly they were untrained, but whose responsibility was it to maintain the readiness of peasant soldiers, but the landlords, who, however, had other interests in the labour of the common people? By contrast, when Lothar of the West Franks invaded Lorraine in 984-85, his army was disrupted and forced to retire by guerilla action - ambushes etc.⁶⁷ In 1002 the Ottonian line ended and the minority of Henry IV in 1054 was followed by bitter conflict fanned by the papacy, in which, as Bachrach has shown, the infantry were drawn into the service of local magnates, for and against the king. This assimilation of military power into the hands of the elite was even more marked and much earlier amongst the West Franks.

France, of course, is the country of chivalry, and Richer of Rheims tells us that on five occasions enemies were put to flight by "fear of the royal cavalry."⁶⁸ But he also reports the presence of infantry. However, the battle of 921 in which Robert of Brittany defeated the Normans, is essentially modelled on Sallust.⁶⁹ But his account of King Odo's victory over the Normans at Montpensier in 892 suggests that Odo's infantry first peppered the enemy with arrows, before the infantry charged, enabling the cavalry to break through and pursue.⁷⁰ This was precisely the battle-plan of the Normans at Hastings. Richer was knowledgeable about warfare, because his father had been a notable soldier and a knight,

66 Regino of Prüm, *Chronicle in History and Politics in late Carolingian and Ottoman Europe* ed. S. MacLean (Manchester: Manchester University Press, 2009), Year 882, 185.

67 Richer de Reims, *Histoire de France* ed. R. Latouche, 2 vols (Paris: Belles Lettres, 1930), 2: 124-26, Year 985.

68 Ibid. 1: 62-69 Year 921; 110, Year 930; 134, Year 936; 182, Year 943, Vol 2: 11, Year 955.

69 Ibid, 69, n.2.

70 Ibid. 1: 20-26, Year 892.

but he provides ample evidence that footsoldiers were useful and could be well equipped. They appear with crossbows in quite complex siege operations.⁷¹

But the French kingdom shrank in the eleventh century and its king was surrounded by a galaxy of petty landowners whose power resided in castles and followings of knights. These lords stood between the king and the mass of the population, and the notion of free peasantry at his service seems to have perished. Perhaps some of them had become knights, the poorest rank of the elite, and others had slipped into the peasantry proper. In 1111 Louis VI of France decided to attack Hugh of Le Puiset. He held an earthwork enclosure, a ditch and bank crowned with a palisade, with a motte in one corner. This was a major undertaking for the king who gathered his forces carefully and created an a fortified camp on a manor held by the abbey of St Denis which, along with other senior clergy, were also hostile to Hugh. The royal army drove Hugh's forces into the enclosure, and tried to burn the main gate with blazing carts. While the king was stalled before the gate, a bald priest, the leader of a peasant militia which the bishops had raised to support the king, climbed up the earthwork and chopped a hole in the palisade, opening the way to the king's men. Hugh fled into the motte and later surrendered.⁷² It is interesting that Louis only had some of his infantry grace of the bishops

In England the power of the king to call all freemen to the army was asserted in the Laws of Ine (688-95):

If a nobleman holding land neglects army service (*fierd*), he shall pay 120s. and forfeit his land; one who holds no land shall pay 60s.; a ceorl shall pay 30s. as fine for neglect of service.⁷³

The reign of Alfred had seen the establishment of firm royal control over Wessex and the king's right to the service of free men in the *fyrð*. By 1000 this, however, was powerfully influenced by the great of the kingdom who increasingly such people followed to the host.⁷⁴ The early Norman kings continued the

71 J,France, La guerre dans la France Féodale à la fin du IX^e et au X^e siècle, *Revue Belge d'Histoire Militaire* 23 (1979),177-98.

72 Suger of St Denis, *The Deeds of Louis the Fat* ed. R.C.Cusimano and J.Moorhead (Washington: Catholic University, 1992), 84-89.

73 C.Stephenson and F.G.Marcham, *Sources of English Constitutional History* (New York: Harper & Brothers,1937), 10.

74 R.Abel, *Alfred the Great, War, Kingship and Culture in Anglo-Saxon England* (London:Rout-

use of the *fyrð*. William the Conqueror levied the *fyrð* and even sent it abroad for his fighting on the borders of Norman. At his accession in 1087 William II Rufus survived an aristocratic conspiracy against him partly by the support of these footmen,⁷⁵ and in 1094 he mobilised perhaps 20,000, but when they assembled at Hastings took their subsistence money and sent them home. When Henry I's (1100-35) claim to the English throne was challenged by his brother, Robert of Normandy, he summoned the *fyrð* to his aid.⁷⁶ Henry finally defeated Robert at the battle of Tinchebrai in 1106. Henry's army had a sizeable infantry force which was stiffened by dismounted knights who held the charge of the Norman cavalry which was then taken in the flank and defeated. In 1124 a group of Norman rebels were intercepted by a royalist force led by Odo Borleng at Bourthérolde. The mounted rebels tried to charge through the dismounted knights and infantry who blocked their escape but were shot down by the archers who flanked the heavily armoured royal knights.⁷⁷ In 1138 at the battle of the Standard a mass of dismounted knights and "others" threw back Scottish attacks.⁷⁸

Infantry were, of course, a commonplace at sieges where heavy digging and construction were vital tasks for which cavalry were not suited, though elite soldiers played their part in assaults. So who were the infantry, defined as unmounted men, and how were they recruited - who fired the bows at every siege and supported the dismounted knights at Bourthérolde?

We are perhaps hypnotised by the distinction between infantry and cavalry as functional. In 1128 Count William of Flanders was challenged by an army led by his rival, Thierry. he set off on reconnaissance to see "how much of it

ledge, 2013) and *Lordship and Military Obligation in Anglo-Saxon England* (London: British Museum, 1988).

75 C.M. Nakashian, "The Use and Impact of the English Levied Soldiers in Anglo-Norman England," *Comitatus* 37 (2006), 11-15 [1-31].

76 A.L. Poole, *From Domesday Book to Magna Carta, 1087-1216* (Oxford: Clarendon, 1955), 106, 116.

77 J. Bradbury, "Battles in England and Normandy, 1066-1154," *Anglo-Norman Studies* 6 (1983), 1-12.

78 Henry of Huntingdon, *The History of the English People 1000-1154* ed. D. Greenway ((Oxford: Oxford University Press, 2002), 70-72.

was a band of auxiliaries and how much a real army.”⁷⁹ In fact the distinction is fundamentally social and indiscriminate. Some of the infantry could be well armed - the *Murder of Charles the Good* refers to citizens armed with swords and fighting against knights.⁸⁰ But the contempt for the mere “auxiliaries” was not unreasonable. The well to do could afford better food and the time to train in arms to develop the necessary athletic fitness, rather than mere muscularity. Their wealth enabled them to acquire the best armour. The speed of their horses provided striking power (and the ability to run away to fight another day) and gave them the initiative in field warfare. Moreover, they were prepared to fight on foot. However, they needed servants to maintain them and their horses, while the war of destruction and the business of siege demanded manpower, and sometimes skilled manpower.

So good infantry were useful and necessary. We do not know how they were being recruited. Clearly in Flanders and Italy city dwellers were prepared to arm and fight to defend their abodes. But quite how armies more generally recruited footsoldiers in the period after the decline of Carolingian obligation is unclear. Perhaps individual lords and knights brought along servants and more adventurous young men prepared for the risk of war. Gilbert of Mons was the paymaster of the Count of Hainaut and knew a great deal about war. He carefully gives us very consistent and credible number of knights in armies, yet mentions incredible numbers of foot; in 1181 the count of Flanders is said to have raised 1000 knights and 200,00 foot, and such anomalies are common.⁸¹ Presumably Gilbert paid the gentry and left them to sort out their retainers. But sometimes he refers to *hominibus peditibus bene armatis* (1184) and even *quidam pedites electi* (1194) who were clearly more than mere auxiliaries, and they may be equated to troops called sergeants, found widely in Europe, who appear to be semi-professional soldiers, some of whom held land.⁸² It is worth noting that many who

79 Galbert of Bruges, *The Murder of Charles the Good* (ed. J.B.Ross (New York: Medieval Academy of America, 1959), 297.

80 Galbert, 175.

81 J.France, “Gilbert of Mons’ Chronicle of Hainaut as a Source for Military History in the Twelfth Century,” in J.D.Hosler and S.Isaac (eds), *Military Cultures and Martial Enterprises in the Middle Ages* (Woodbridge: Boydell, 2020), 148-49 [136-55].

82 L. Vanderkindere (ed.), *La Chronique de Gislebert de Mons* (Bruxelles: Kiessling, 1904), tr. L.Napran, *Gilbert of Mons, Chronicle of Hainaut* (Woodbridge: Boydell, 2005), Chapters

fought on horseback were called sergeants, though they were generally less well equipped than knights.⁸³ Clearly knights could not stand alone and there was a need for good foot. Henry II tried to regularise the messy business of raising foot in 1164 by devising quotas from the great landowners in parallel to their obligation to provide knights, but noble resistance was too strong.⁸⁴

The fact was that casual recruitment with personal loyalties was adequate for the armies of the eleventh century, but the more sustained warfare of the twelfth century, supported by growing wealth and organized by stronger monarchies, demanded the reliability which comes from training. The cities of northern Italy waged war with one another, with the lords of the area, and with the German Emperor. Citizens depended on one another and this formed the basis of the solidarity of their infantry who lived, worked and trained together.⁸⁵ In 1176 it was the infantry of Milan who held the attack of the German cavalry, allowing their own horse to recover and put the enemy to flight in the battle of Legnano.⁸⁶ It has to be said that the nobility and wealthy of the city were the cavalry and provided leadership, but staunch infantry were the backbone of the Italian city armies until the fourteenth century. The French monarchy drew on the cities of the kingdom for infantry, though like the English they often preferred payment to living soldiers.⁸⁷ But the Assize of Arms provided a real indication of those from whom infantry could be recruited, like the 1300 sent to Normandy in 1195. On the other hand the 2100 Welsh foot sent there in 1196 were presumably raised by the friendly princes in Wales.⁸⁸

All in all it is hardly surprising that kings who needed dependable armies liked to hire mercenaries, and, indeed, the late twelfth century and early thir-

114,209. Ibid., 144; France, 'Gilbert of Mons,' 144; France, *Western Warfare in the Age of the Crusades*, 66-67.

83 France, 'Gilbert of Mons,' 144; H.Round, *The King's Sergeants and Offices of State* (London: Woburn, 1971), 15,21-34.

84 France, *Western Warfare in the Age of the Crusades*, 68.

85 A.A. Settia, *Comuni in guerra: Armi ed eserciti nell'Italia delle città*, (Bologna: CLUEB, 1993), pp. 71-89, 152-6.

86 P.Grillo, *Legnano 1176. Una battaglia per la libertà Milan: (Laterza, 2010)*.

87 J.France, *Medieval France at War: A Military History of the French Monarchy, 885-1305* (Leeds: ARC, 2022), 207.

88 M.Prestwich, *Armies and Warfare in the Middle Ages. The English Experience* (London: Yale, 1996), 116.

teenth were a golden age for such men. They were hated and reviled because of their plundering and cruelties, but almost all soldiers plundered, and ultimately everybody knew that they were the creatures of the great.⁸⁹ They were clearly efficient soldiers because everybody hired them. At the battle of Bouvines a group of mercenary foot on the losing side held out to the bitter end causing great difficulties for the victorious French.⁹⁰ Mercenaries became a vital element in armies, even on crusade.

In the Holy Land the relatively small European population was faced by increasingly implacable enemies, and in this situation every man of appropriate age was liable to fight. It is likely that the cities of the Latin Kingdom of Jerusalem raised at least 5000 foot for the army.⁹¹ Richard of England did not bother to have the third crusade preached in England. In his march toward Jaffa he used infantry to protect his cavalry. They were likely mercenaries and showed great endurance as a Muslim who was present commented:

The enemy army was already in formation with the infantry surrounding it like a wall, wearing solid iron corselets and full-length well-made chain-mail, so that arrows were falling on them with no effect ... I saw various individuals amongst the Franks with ten arrows fixed in their backs, pressing on in this fashion quite unconcerned.⁹²

Richard on this occasion was marching his army south in the presence of a strong enemy army, and adopted the tactics of the fighting march which had been developed in the Holy Land where the westerners were usually outnumbered by clouds of Turkish horse archers. Infantry played a vital role in keeping the enemy at a range where their archery could not maim the knights or their horses.

Throughout the thirteenth century mercenaries were an important element in many armies, but, because they were expensive, only an element. In France there was a preference for city levies, with a growing control of military po-

89 J. France, 'People against mercenaries. The Capuchins in Southern Gaul', *Journal of Medieval Military History* 8 (2010), 1-22.

90 J. France, "The Battle of Bouvines, 27 July 1214," in G.I. Halfond, *The Medieval Way of War: Studies in Medieval Military History in Honor of Bernard S. Bachrach* (Aldershot: Ashgate, 2015), 268-69 [251-73].

91 P. Edbury, *John of Ibelin and the Kingdom of Jerusalem* (Woodbridge: Boydell, 1997) 27-54.

92 Baha al-Din Ibn Shaddad, *The Rare and Excellent History of Saladin*, ed. D.S. Richards (Aldershot: Ashgate, 2002), 51.



Fig. 4. Alfonso X, King of Castile and León, *Cantigas del Rey D. Alfonso el Sabio*, ms., sec. XIII, membr., mm 450 x 314 (Firenze, BNCF, Banco Rari 20, c. 36r). Archive.org.

tential as a whole.⁹³ In England Henry II's *Assizes of Arms* of 1181 demanded that all freemen should have arms: the well-to-do who could not afford a horse should have a padded surcoat, an iron cap and a spear a short-sleeved hauberk of mail, helmet, sword and knife, while a broader mass should have quilted doublets, an iron cap and a spear.⁹⁴ By the Assize of Winchester of 1285 the crown was essentially asserting its right to call all men to serve.⁹⁵ The Assize was originally intended to ensure that the stable elements in society could resist ruffians and thieves, but this was the equipment with which men were expected to present themselves for the Commissions of Array by the end of the thirteenth century, and it corresponds very closely to the English soldiers we see on the Bayeux Tapestry, to the professionals who fought on Richard's crusade and to contemporary representations of those who triumphed at Legnano. It was on this basis of competent royal administration that large masses of infantry were created under Edward I (1272-1307) to feed his wars in Wales and, most par-

⁹³ France, *Medieval France at War*, 189-208.

⁹⁴ France, *Western Warfare in the Age of the Crusades*, 32-33; C.M. Nakashian, "Opportunity and Obligation: Urban Military Service in Medieval England," *Journal of Medieval Military History* 23 (2025), 31-32 [21-39].

⁹⁵ France, *Western Warfare in the Age of the Crusades*, 32-33.

ticularly in Scotland. These wars demanded masses for sieges and to wage war more generally in harsh upland landscapes. Perhaps 31000 served in Wales in 1294-95 while 20000 were recruited for Scotland.⁹⁶ Such vast numbers proved difficult to feed and suffered from mass desertion, but the Commissions of Array by which the king's men called freemen together could be and were refined to provide more specialised and effective soldiers.

In fact, at the turn of the fourteenth century there was a sudden series of victories by infantry over cavalry which appear to have pointed to a new direction in warfare. Rather than mere auxiliaries the foot take centre stage. The difficulties of raising them deprived foot of their greatest advantage mass. Moreover, mass needed to be trained and armed. But training was difficult for the transitory armies before the late 12th century, while the nobility invested in protection for themselves. Kings and their advisors knew what they wanted to do, but finding the means to do it was difficult in a relatively poor society in which concentration of wealth was difficult because political power was always dispersed. Hence the foot usually appear in a subordinate role protecting the knights in the open field. At Bouvines the French skirmishers realised the allied army meant to fight seriously because it threw its infantry ahead of the knights.⁹⁷ Above all they appear in accounts of siege.

But this began to change in the thirteenth century. Illustrations show us footmen as cheaper versions of the knights in mail hauberks and iron helmets, while the Assize of Arms refers to padded jerkins. The kettle hat with its broad brim was favoured, though mounted men also used this. By that time increasing wealth was giving rise to variations. The basic weapon of offense remained the spear supplemented by swords and daggers. However, better staff weapons, combinations of the spear with an axe, blade, hook and hammer, enabled foot to resist cavalry and falchions came into use. The crossbow was known since the tenth century at least, and it was indeed a deadly weapon, though slow to load and best suited to siege.⁹⁸ But the crossbow was a relatively expensive machine,

96 Prestwich, *Armies and Warfare in the Middle Ages*, 117.

97 R.C.Smail, *Crusading Warfare, 1097-1193* 2nd edition (Cambridge: Cambridge University Press, 1995), 130-37; France, "Battle of Bouvines," 262.

98 V. Serdon, *Armes du diable. Arcs et arbalètes au moyen âge* (Rennes: Presses universitaires, 2005).

which limited its use. Even the poorest, however, were expected to have bows. Which brings us to a real problem which is the limited references to the use of archery before 1300, and its apparently sudden major importance shortly thereafter.

Bows were used, famously at Hastings, and again at Bourgethéroulde. They were cheap, used little metal and seem to have been very widespread. Yet we hear little of them. There is only a single reference to them at Bouvines (1214) while they seem to have played no part in Charles of Anjou's great victories at Benevento (1266) and Tagliacozzo (1268) which gave him the crown of Sicily.⁹⁹ This obscurity reflects the general problem of infantry. Bows varied, in size, fabric, quality of workmanship - that is the inevitable consequence of self-provision. And men vary which is important because the simple bow has a high trajectory and judging its fall on an enemy who is moving is a fine art, at which various people have a varied skill. The real need is for mass, volley-fire which creates a curtain of death, rendering irrelevant differences of ability by subjecting all to a discipline of fire. In the armies of kings and lords which were short-lived and could offer only training "on the job" that was difficult to achieve. And great men invested in their own weapons and protection. The emergence of bowmen arose from particular circumstances which favoured a new and different elite amongst the infantry in England.

Edward I failed to conquer Scotland and this resulted in the emergence of a war zone across northern England in which raiding by both sides became a way of life. This created a pool of practised soldiers amongst whom were archers whose value fighting in an environment which generally did not favour cavalry, was recognised. Once the wars with France began opportunities for plunder made a military career for such men attractive. The administrative system could be adapted to select the most useful troops, with war leaders signing contracts.¹⁰⁰ In the continuous fighting a tactical system emerged, as at Dupplin Moor (1332), in which the knights and nobles dismounted to receive an enemy attack, while the archers poured in fire from the flanks. This tactical formation was essentially defensive, but Edward III (1327-77) developed this into a strategy by attacking

⁹⁹ S. Runciman, *The Sicilian Vespers* (Harmondsworth: Penguin, 1961), 94-132.

¹⁰⁰ Prestwich, *Armies and Warfare in the Middle Ages*, 123-25.

the French in the “Hundred Years War” at critical points which forced them to attack him, leading to the triumphs of Crécy (1346) and Poitiers (1356).¹⁰¹ At the same time, while the nobility retained its general military aspect, some could specialise and some chose warfare creating more professional leaders.

In 1302 a revolt by Bruges led to the victory of the townsmen over an elite French cavalry army at Courtrai. They and their allies were extremely well armoured and mostly equipped with long pikes. The discipline arising from common citizenship enabled them to resist the French cavalry, and they were fighting, strengthened by uniform and good equipment, behind watercourses which broke up the momentum of the cavalry charge. As at Legnano steady infantry fighting on ground of their choosing were triumphant. At around the same time the Scots defeated a large English army at Bannockburn (1314), the Swiss ambushed a Hapsburg force at Morgarten (1315) then defeated a strong army of their allies at Laupen (1339), while the Grand Catalan Company virtually annihilated the forces of the Frankish duchy of Athens at Kephisos (1311). This was not a coincidence. The developing economy of Europe was creating the wealth to provide good weapons and armour for the communities which it fostered and who developed their own interests. The virtues of well trained and equipped mass meant war was now increasingly waged by large forces of foot-soldiers.¹⁰² As Rogers has pointed out the press of masses and the use of bows meant that chivalric surrender was difficult and the result was heavier casualties even among the elite.¹⁰³

But infantry had limitations. Cavalry could strike fast. Some crossbowmen had long been mounted, and during the “Hundred Years War” the English mounted their bowmen. But both still had to fight on foot, a condition imposed by their weapons. An innovative use of infantry was that of the Swiss pikemen who were highly disciplined and made intelligent use of ground to manoeuvre against their enemies and to rush upon them unexpectedly. They defeated the duke of Burgundy, Charles the Bold, who was the possessor of a great artillery train, three times at Grandson (March 1465), Murten (June 1476) and Nancy (January

101 Rogers, “Military Revolutions of the Hundred Years War,” 58-64.

102 For a good survey see K. DeVries, *Infantry Warfare in the Early Fourteenth Century* (Woodbridge: Boydell, 1996).

103 Rogers, “Military Revolutions of the Hundred Years War,” 62-64.



Fig. 4. Bibliothèque Municipale de Besançon, MS.677 Fleur des chroniques, f. 086r. (1384-1400) <https://manuscriptminiatures.com/3986/10891#image> Public Domain

1477), killing him on the last occasion.¹⁰⁴ It is little wonder that they became prized as mercenaries, and indeed, inspired imitation in the form of the German *Landsknechts* who became their rivals in the business of war. Late medieval infantry were much more expert than their earlier medieval predecessors, but they suffered from much the same problems. In movement it was very difficult to maintain mass and order, any breach of which made infantry vulnerable. Even when they were static the Swiss tended to create minor ditches and mounds to deter cavalry attack. When France developed a regular army in the late fifteenth century based on the *Compagnies d'Ordonnances* cavalry were very prominent, and this was true of similar contemporary forces in Spain and Italy.¹⁰⁵

Gunpowder and gunpowder weapons would ultimately change warfare radically but made their real impact only slowly. The hardware of war needed to be

¹⁰⁴R.D.Smith and K.Devries, *The Artillery of the Dukes of Burgundy, 1363-1477* (Woodbridge: Boydell, 2005), 137-202.

¹⁰⁵P.Contamine, *War in the Middle Ages* tr. M.Jones of a French original of 1980 (Oxford: Blackwell, 1984), 168-72.

developed: only towards the end of the fifteenth century did cannon develop the classic designs of a long barrel and high wheels. For long, the difficulties of making good gunpowder and the limitations of contemporary metallurgy were problems. Then weight and slow loading largely confined guns to sieges. But gunpowder was improved and skilled operatives learned how to handle vast quantities of wagons and supplies. The Hussites of Czechia who rebelled against their Hapsburg masters, 1420-34 invented the Wagenburg, using the vehicles of their supply train encircled to protect their infantry and cannon from cavalry attack. This was an influential tactic, but somewhat clumsy, and towards the end of the fifteenth century personal weapons like the arquebus were combined with more mobile cannon to provide effective firepower.¹⁰⁶ And the software - suitable formations to allow for slow loading for example - had to be thought up.

Armies resemble the societies that create them. In the Middle Ages when wealth was confined to a few, this inequality was bound to be reflected in the structure of armies. The wealthy and their supporters had the means, in all senses, to dominate warfare and they tended to look down on the mere “auxiliaries.” In the states of Europe their power and influence was such that by the end of the tenth century, in military as in civil matters, they stood between the king and his people. Warfare tended to be on a scale and in directions which reflected their interests. But as wealth grew, states grew, the value of humble infantry became much clearer and methods of capitalizing on their capacities were developed. In these circumstances the value of mass, of infantry, made itself very evident. But the infantry armies of the late medieval period did not emerge like bolts from the blue, but from the economic, social and political evolution of the lands which produced them.

¹⁰⁶Querengässer and Lunjakov, *Hussite Warfare*, 40-44, 92-96 ; Contamine, *War in the Middle Ages*, 64-76.

From *scararius* to *miles*:

Layers of Infantry Recruitment and Service in the Carolingian Empire

by JÜRIG GASSMANN

Introduction

The conventional view of the Carolingian capitularies is that taken in context, they reflect a well-oiled organisation that delivered to the emperor an effective force of infantry and cavalry. It was thanks to this military machine that Charlemagne was able to conquer vast swathes of territory. Academic investigation then focuses on subsidiary questions, such as: Who did the capitularies define as soldiers? Were they professionals or amateurs?

In his 2020 doctoral dissertation, Christoph Haack re-analysed the capitularies.¹ According to his close reading of the texts and their legislative history, Haack concluded that they were not manifestations of a refined system. Rather, each of them addressed a problem specific to a time and a place, with imperial courtiers feeling their way to an *ad hoc* solution that would be acceptable to the empire's constituents.² With these findings, Haack departed from the prevailing conception of the capitularies as the manifestations of a comprehensive system. However, while the capitularies may have revealed a struggling system, he still views them as defining a distinct "military."

This chapter takes Haack's findings a logical step further: What if there was no defined "military," no categorical difference between individuals called up

1 Christoph Haack, *Die Krieger der Karolinger: Kriegsdienste als Prozesse gemeinschaftlicher Organisation um 800* (Berlin/Boston MA: de Gruyter, 2020); similarly already Walter Goffart, "The Recruitment of Freemen into the Carolingian Army, or, How Far may One Argue from Silence," *Journal of Medieval Military History* 16 (2018), pp. 17–34. Guy Halsall ("The Western European kingdoms, 600–1000," in *The Cambridge History of War*, Anne Curry (ed. – Cambridge, Cambridge UP, 2020), pp. 50–82, at p. 53) argues that this negotiation already occurred in the seventh century.

2 Haack, *Krieger*, pp. 189–209.

for service in the imperial host and those staying behind?

The hypothesis here presented is that the general infantryman, as it were, of the imperial Carolingian army was drawn from a body of men who already rendered armed service locally, maintaining the peace on the local stretch of highway or providing armed escorts for the lord's transports. The negotiations between "high command" and local lords that Haack found would then have revolved around a balancing of the needs of the army and the security needs of the magnates.

Feudalism and all that

A key barrier to our ability to view historical phenomena without preconceptions is language and terminology.³ To the modern reader, "military" implies a polity's organised armed force, arrayed against an external armed force; the objective of the military is to assure the polity's integrity and independence. As such, it is distinct from "police", a polity's *internally* applied armed force. Its job is to assure internal peace and security, and its use-of-force doctrine is (or should be) quite distinct from the military's. I believe it is safe to say that our modern conceptions of state and hence of the categorical separation of "military" and "police" are not applicable to the Carolingian polity.

The various functions of rule were not yet differentiated. At the point of time relevant to this chapter, not just internal and external security, but also the administration of justice, fiscal, market, and infrastructure, were part and parcel of rule. There was no institutional separation between legislation, administration, adjudication, and enforcement.⁴ Individuals or collectives charged with

3 Space constraints do not allow for an extensive discussion of all sensitive *termini technici*; generally, no fixed meaning should be imputed to a given term. See in this respect also the methodological discussion with Rafael Wagner, *Schwertträger und Gotteskrieger: Untersuchungen zur frühmittelalterlichen Kriegergesellschaft Alemanniens* (Zurich, Chronos, 2019), pp. 18-29.

4 Wagner, *Schwertträger*, pp. 23-24, uses the term *Funktionär* to describe individuals acting in an official function, which could be at any level, from count or imperial *missus* to menial tasks like delivering messages. In contrast to modern bureaucrats however, these *Funktionäre* were not mere executive tools. Some documents from or attributed to Carolingian times refer to *ministri rei publice* (counts and bishops, but including gastalds, *Schultheißen* (*sculdahis*) and others) – Igor Santos Salazar, "A Carolingian suite: the Supponids in Italy until the death of

mediating rule were both authorised and expected to provide the resources for enforcement, and actually enforce, with arms if indicated.⁵

So if e.g. a village had the obligation of providing transportation services for its grain assessment to the abbey, then that obligation included the requirement to protect that transport. In line with the medieval policy of organisational autonomy of collectives, how the village did that was left to the village.⁶ The lord did not impose a structure or solution.

Vocabulary and Terminology

Vocabulary is of scarce help here. Sources from the period are rare, and rarer still are originals from the period.⁷ Most of the documents extant are later copies, sometimes in the form of summaries or extracts. There is no guarantee that the original terminology was maintained. Even where the terminology is faithfully preserved, there was no standardisation across the Frankish realms.

At the heart of this chapter is the term *militia* and its cognate *miles*, in modern English the roots of the term “military” – a veritable linguistic *faux ami*. In the Carolingian context, *militia* refers to service generally, not strictly military service. The meaning of *miles* is similarly open – as Sarti puts it, “neither soldier nor knight.” In both cases, though, it seems the terms refer to a service or a servitor mediating authority and rule.⁸ It should not be assumed that a person

Lothar (814-855),” in *Aristocratic Networks*, Giuseppe Albertoni, Manuel Fauliri, Leonardo Sernagiotto (eds. – Florence, Firenze University Press, 2025), pp. 141-60, at pp. 150-52.

5 Notker Balbulus avers that the counts participating in an 890 comital *placitum* in southern Swabia said they would enforce the decisions with their swords, spilling blood if necessary – Wagner, *Schwerträger*, pp. 312-14.

6 I also do not wish to engage here in a discussion about whether this reflects Germanic tribes’ traditional penchant for collective rule (*Genossenschaft*); the policy is in my view sufficiently explained by bureaucratic economy, that the lords simply did not have the staff, organisation, or resources for a more intrusive administration.

7 Two thirds of all original pre-1000 documents are held in St Gallen, giving particular weight to Wagner’s investigations – *idem*, *Schwerträger*, pp. 14-15.

8 Haack, *Krieger*, pp. 101-04; Jürg Gassmann, “Abbees and Their Fighting Men: From the Carolingian Capitularies to the *Libri Feudorum*,” *Acta Periodica Duellatorum* 10.1 (2023), pp. 43-73, at pp. 45-47; on the shifting meaning of *miles* Laury Sarti, “Der fränkische *miles*: Weder Soldat noch Ritter,” *Frühmittelalterliche Studien*, 52.1 (2018), pp. 99-117; on pp. 101-03 and 109-11, Sarti traces the usage for *miles/militare/militia* in the Merovingian sources,

rendering *militia* was by that token alone a *miles*, or that only *milites* could render *militia*.

A typical term used to describe the contingents contributed to the central host is *scara*. Several authors turn to etymology to establish its meaning. Since it is derived from “to shear”, it is posited that a *scara* is a subunit of a larger unit, as in modern usage a subunit might be “detached” or “*abkommandiert*” from its regular unit and temporarily attached to different force.⁹ Without wishing to place too much weight on this approach, this is consistent with *scara* duty referring to a part of a lord’s paramilitary effectives being integrated into an imperial host for a specific campaign.

The modern categorisation into “cavalry” and “infantry” also is probably inappropriate for the Early Middle Ages. The members of the entourages are better understood as elite fighters, who fought mounted or on foot, as required. Some of the draftees may also have been mounted, but would likely then have fulfilled, in modern parlance, light cavalry roles such as reconnaissance, liaison, or escort,¹⁰ and not formed part of the battlefield cavalry. For the sake of simplicity, in this chapter “cavalry” refers to an elite fighter proficient in various arms who was capable of fighting mounted, and “infantry” to all others.

The bulk of the literature on Carolingian military organisation focuses on land holdings as a measure of asset wealth; a large landholder had a larger military obligation because he could financially afford it. I would like to shift the emphasis (and that is all it is) by proposing that the extent of the landholding was rather a measure of the number of hands required to work the holding.¹¹ A

where the term – when it refers to a person in arms – means a gaoler. The discussion with Wagner, *Schwerträger*, on *militia* v. *exercitus* (pp. 76–81) or Roman military-derived terms for units (pp. 101–09) is not helpful here since it focuses on eleventh century usage. More relevant is the discussion on the shifting terms for describing individuals between the eighth and the eleventh century *ibid.* on pp. 83–98.

9 Bernard S. Bachrach, *Early Carolingian Warfare: Prelude to Empire* (Pittsburgh, University of Pennsylvania Press, 2001), p. 80; Halsall, “Kingdoms,” p. 52; Étienne Renard, “Les *herescarii*, guerriers ou paysans?” in *Archivum latinitatis mediæ aevi. Bulletin du Change*, 57 (1999), pp. 261–72, at p. 264.

10 See Étienne Renard, “La politique militaire de Charlemagne et la paysannerie franque,” *Francia* 36 (2009), pp. 1–34, at p. 13.

11 Making the point in a different context Étienne Renard, “Une élite paysanne en crise? Le poids des charges militaires pour les petits alleutiers entre Loire et Rhin au IX^e siècle,” in *Les élites au haut Moyen Âge: crises et renouvellements*, François Bougard, Laurent Feller, and

holding of four manses would require a team large enough to be able to afford the detachment of one man for military duty without excessively straining the operation's manpower resources.¹²

Composition of a Carolingian army – a summary sketch

When it came to assembling an army for a campaign, Carolingian “high command” drew on a variety of sources for its effectives. One source was the entourages, both the imperial entourage as well as the entourages of the lay and ecclesiastical magnates.¹³ The second source was the common population obliged to render military service upon a call-up.¹⁴ In the discussion on whether the individuals were professional *soldiers* or not, the focus in my view has been misdirected.

The entourages of the magnates

It is my view that membership in an entourage was or at least could be a full-time occupation. The jobs of that entourage covered a greater range of activities than soldiering; they regularly involved bearing arms and were sometimes provided mounted. So I agree they were professionals; I agree that some at least were arms-bearers and potentially fighters; but I disagree they were *soldiers* in the narrow sense.

The entourage included a mix, ranging from household servants to secretaries. Of course they also included an armed bodyguard. A rough idea of the size of magnates' entourages can be gathered from Eric Goldberg's recent analysis of the institution of *tractoriae*. This refers to letters of requisition under which officials on imperial business could demand of their hosts supplies for their retinue, both man and beast. The amount of supplies was graded by the rank of the

Régine Le Jan (eds. – Turnhout, Brepols, 2006), pp. 315-36, at pp. 316-17. The number of manses as a criterion itself was a Carolingian innovation (Renard, “Politique militaire,” p. 21), implying that there was already here an effort to limit the effectives liable for an imperial call-up.

12 The Carolingian *mansus* did not have a defined area, but differed in size by the land's productivity from around 11 ha to 16 ha (27-40 acres).

13 B. Bachrach, *Early Carolingian Warfare*, pp. 59-76; Wagner, *Schwertträger*, pp. 431-32.

14 E.g. B. Bachrach, *Early Carolingian Warfare*, pp. 52-57; Halsall, “Kingdoms,” pp. 53-54.

missus; a bishop had the largest allowance. Next in rank were abbots, counts, and court officials, while a royal vassal had a smaller allotment.¹⁵

Louis the Pious carried the supplies specified in the *tractoriae* over to the allocations to be made to magnates contributing contingents to the host.¹⁶ It is therefore not unreasonable to conclude that the magnates' peacetime travelling entourages were of comparable size and composition to the entourages they took on campaign. The sizes calculated from the *tractoriae* are reasonably close to the sizes given in the *Indiculus loricatorum*, a late tenth-century imperial chancery memo listing out the reinforcements German lay and ecclesiastical magnates were to send to Emperor Otto II, who was then campaigning in Italy.¹⁷

The armed element of the entourage was not just responsible for guarding the magnate, they also functioned as a *gendarmérie* for the magnate's lands. They kept the peace on the highways, protecting merchants, the magnate's tax collectors, and ranking visitors. They acted as emissaries and accompanied ambassadors.¹⁸

Another important function was hunting. The hunt was entertainment, sport, and a social event for the magnate and the magnate's high-ranking associates and visitors,¹⁹ but it also had more pragmatic functions. It served as an opportunity to gather intelligence on the geography of the magnate's lands, with its roads, watercourses, obstacles, choke points, and so on – information critical in the event of defence. Hunting supplemented the supply of meat to the magnate's kitchens. Deer and wild boar can cause devastating damage to crops, and wolves and bears prey on sheep – suppressing them was a service peasants expected of their lord.²⁰ Bears, boars, and wolves are extremely dangerous prey, demand-

15 Eric J. Goldberg, "Tractoriae and the logistics of Carolingian entourages," *Early Medieval Europe* 33.2 (2025), pp. 158-82, at pp. 6-14.

16 Goldberg, "Tractoriae," pp. 15-17.

17 Goldberg, "Tractoriae," p. 19; *Indiculus Loricatorum Ottonis II in Italiam mittendorum*, *MGH – Const.*, Vol. 1, Ludwig Weiland (ed. – Hanover, Hahn, 1893), pp. 632-633.

18 Wagner relates an encounter the Irish-born St Gallen monk Tuotilo had with bandits, warded off by his armed escort of two *celerēs*: *idem*, *Schwerträger*, p. 193.

19 Eric J. Goldberg, *In the Manner of the Franks: Hunting, Kingship, and Masculinity in Early Medieval Europe* (Philadelphia, University of Pennsylvania Press, 2020), p. 5.

20 The *Capitulare Aquisgranense* of 801-813 (*MGH – Capit. I*, No. 77, §8, p. 171), requires the appointment of two wolf-hunters. Goldberg, *In the Manner*, p. 174.



Fig. 1 – Back cover of the *Evangelium Longum*, ivory carved by Tuotilo Cod. Sang. 53, c.895 Stiftsbibliothek / Abbey College Library St Gallen, CC-BY-NC

ing consummate weapons skills. For those participating mounted, it is also a challenge for the horse's confidence and courage, and trains the coordination between horse and rider.²¹

The proposition therefore is that these functions were the full-time job of the entourage. When the magnate was called to war by the imperial high command, these functions still needed to be maintained, so the number contributed to the imperial host would always be just a portion of the entourage.²²

The call-up from the agricultural population

Reverting to the second element of the host, the call-up from the agricultural population: The novel proposition advanced in this article is that a similar dynamic operated with respect to the infantry raised from this population; here as well, it will be argued, there was among the rural populace a body of individuals who in peacetime fulfilled functions that required the bearing of arms to varying degrees of intensity, providing a ready reservoir of arms-habituated men. A subset of these would preferentially populate the infantry call-up for the imperial host.

Town militias?

Another potential reservoir of infantry would have been the militias of the towns. The documentation is scarce. In the capitularies there is a deafening silence. Still, it is unlikely the urban populations had dwindled to insignificance. A recent article by Majocchi on the militias of the Northern Italian cities in the eighth and ninth centuries shows that under pre-Carolingian Longobard rule, the organisation of the militias shows considerable continuity from Late Antiquity, and through to the twelfth century.²³

21 Goldberg, *In the Manner*, p. 172.

22 As a very rough comparator, modern military experience suggests that a fully staffed unit cannot detach more than 15-20% of its complement without having to reduce its assignments or (what usually happens, with long-term consequences) training.

23 Piero Majocchi, "L'esercito del re e le città: organizzazione militare degli eserciti urbani in Italia settentrionale (VIII-XI sec.)," in *Urban Identities in Northern Italy (800-1100 ca.)*, Cristina La Rocca and Piero Majocchi (eds. – Turnhout, Brepols, 2015), pp. 103-48, esp. at pp. 107-11.

The Carolingian military capitularies for Italy do not mention the city-based organisation, but in language reflect Frankish usage. Majocchi argues that the reality regarding the Italian hosts of the Carolingian period instead continued along Longobard practices, since not only the population, but also the lay and ecclesiastical magnates were city-based – unlike the reality north of the Alps.²⁴

Bernard Bachrach too has long argued that the continuity of cities in Gaul fortified in Roman times meant that their walls needed to be defended, effectively implying an urban civic militia.²⁵ The question would seem an interesting avenue to pursue, but since the capitularies do not address it and there is scant secondary literature, it will have to wait for another time.

Jealous Lords: The Evidence from Capitularies

One of Haack's central arguments is that the capitularies are evidence of a process of negotiation between the imperial centre and the magnates regarding the level of military exactions the magnates were willing to endure.²⁶ Lay as well as ecclesiastic lords of course had a straightforward economic motive to seek to reduce their tax load; Abbot Loup of Ferrières complained bitterly about the economic strain caused to his abbey by the perennial warfare.²⁷ The texts of the documents provide more colour.

Charlemagne in 811 commissioned a survey on the excuses given by lords for exempting certain individuals from an imperial call-up; it reported:²⁸

“4. That the bishops and abbots or counts are releasing their free men to

²⁴ Majocchi, “Esercito,” pp. 111–14.

²⁵ B. Bachrach, *Early Carolingian Warfare*, p. 208; Bernard S. Bachrach and David Bachrach, “Early Saxon Frontier Warfare: Henry I, Otto I, and Carolingian Military Institutions,” *Journal of Medieval Military History* 10 (2012), pp. 17–60, at pp. 32–38). See also Geneviève Bührer-Thierry, “Bishops as City Defenders in Early Medieval Gaul and Germany,” in *Between Sword and Prayer*, Radosław Kotecki, Jacek Maciejewski, John Ott (eds. – Leiden/Boston MA, Brill, 2018), pp. 24–45, though most of her sources are tenth century. Wagner, *Schwertträger*, pp. 209–44 also describes a continuity of fortified places in the Lake Constance area, but deals only briefly (pp. 238–39) with their garrisons or defenders.

²⁶ Haack, *Krieger*, pp. 189–209 and *passim*.

²⁷ Loup of Ferrières, *MGH – Epp.* Vol 6. No. 32, pp. 40–41.

²⁸ *Capitula de rebus exercitalibus in placito tractanda* (*MGH – Capit. I*, No. 73, §4, p. 165). Translations are mine unless otherwise indicated.

go home as essential officials, as are abbesses: these are falconers, hunters, harbour fees collectors, supervisors, deacons and others who deal with the Emperor's officials, as well as those in their service."

A few years later, in 819, Louis the Pious in his *Capitulare missorum* allowed the following:²⁹

"27. That our vassals and the vassals of the bishops, abbots, abbesses and counts, who in this year have not been in active service, should join the call-up; except for those who for reasons of necessity and as laid down by our lord and father Charlemagne were sent home, that is those who were dismissed by the count **to keep the peace and to protect their spouse and home**, and by the bishop or abbot or abbess likewise **for keeping the peace** and to collect the harvest **and keep the subjects in line** and to receive our inspectors."

Subsequent capitularies continue to harp on the obligation of lords to contribute their allotted men and not being authorised to grant exemptions. But the obligation is regularly tempered by the reservation that the lords may continue to grant the exemptions authorised by Charlemagne or his successors. How many effectives these customary exemptions subtracted is not known.³⁰ The swingeing penalties for not sending the allotted men speak to the level of tension between the royal demands and the magnates' protectiveness of their own resources. How effective the royal ukases were in practice is also hard to tell.

Clearer is the organisation of the contingents that were assembled and destined to join the host – in the case of infantry, these were led by the *comes* of the *pagus* whence the men were raised.³¹ In the case of cavalry, it seems they were led by their magnate or *senior*.³²

29 *Capitulare Missorum*, MGH – Capit. I, No. 141, §27, p. 291 (my emphasis).

30 Guy Halsall, *Warfare and Society in the Barbarian West, 450-900* (London/New York NY, Routledge, 2003), p. 124. There is also not the space here to discuss a further dynamic, that of small landowners gifting their land to an ecclesiastical lord and taking it back in rent for a modest fee, coupled with exemption from military service – Renard, "Elite paysanne," pp. 322-32.

31 Halsall, *Barbarian West*, pp. 98-100; Wagner, *Schwerträger*, pp. 113-14, 192, 305-315; Stefano Gasparri, "Conclusions," in *Aristocratic Networks*, Giuseppe Albertoni, Manuel Fauliri, Leonardo Sernagiotto (eds. – Florence, Firenze University Press, 2025), pp. 311-319, at p. 314.

32 Wagner, *Schwerträger*, pp. 114, 192. See the c.806 marching orders issued to Abbot Fulrad



Fig. 2 – Illumination from the *Psalterium Aureum*, between 883 and 900
Cod. Sang. 22, p. 141, produced in Soissons or St Gallen
Stiftsbibliothek / Abbey College Library St Gallen, CC-BY-NC

Magnates' Forces: The evidence from charters and polyptychs

The capitularies evidence the tension between the (maximalist) claims of the imperial high command and the desire of magnates to not denude themselves of their means of preserving domestic peace and security. But these sources do not tell us much about the structure of a magnate's forces. Some information in this respect can be gleaned from charters and polyptychs. The information thus is heavily weighted toward the ecclesiastical institutions.

The survival of the ecclesiastical documentation is readily explained by the fact that clerical institutions had the literate staff for that purpose, and were also constitutionally more dependent on an ability to document their entitlements. There is a risk that an argument relying exclusively on ecclesiastical documents cannot be extended to lay magnates. However, we *expect* lay magnates to command a comprehensive military force. If we can show that the population of *even* ecclesiastical magnates encompassed a spectrum of fighters, then it is reasonable to argue that at least the same if not more extensive forces were available to lay magnates.³³

Two initial documents that are interesting in this respect relate to the Convent of Saints Felix and Regula in Zurich, better known as the *Fraumünster*. Emperor Louis II the German in 853 gave the then insignificant convent to his eldest daughter Hildegard as the first proprietor. He boosted the importance of the abbey by conferring upon it the empire's manor (*curtis*) in Zurich, the Albis forest, and some lands in Uri.³⁴

The donation charter includes the words making the Hildegard the head of the *familia militans* of the abbey.³⁵ The abbey newly had substantial and far-

of St Quentin (*MGH – Capit. I*, No. 75, p. 168); there is an express reference to *caballarii*, though it is not clear whether the contingent was just cavalry or mixed.

33 It bears recalling that in the *Indiculus Loricorum*, 75% of the 2,000 *loricati* were called up from ecclesiastical lords (bishops and abbots), and the largest contingents – 100 *loricati* – came from (arch)bishops. To some extent, this may be an artefact of the document, which asked for *reinforcements*; maybe the original host was more lay magnate-heavy. In any event, the *Indiculus* is (by inference) limited to cavalry, whereas the prime focus of this chapter is on infantry.

34 For context see Gassmann, "Abbesses," pp. 60–63.

35 *MGH – DD LdD*, No. 67, p. 94. I have not seen the term in other contemporary documents; tenth century documents referenced by Wagner, *Schwerträger*, pp. 57–58, use the concept in

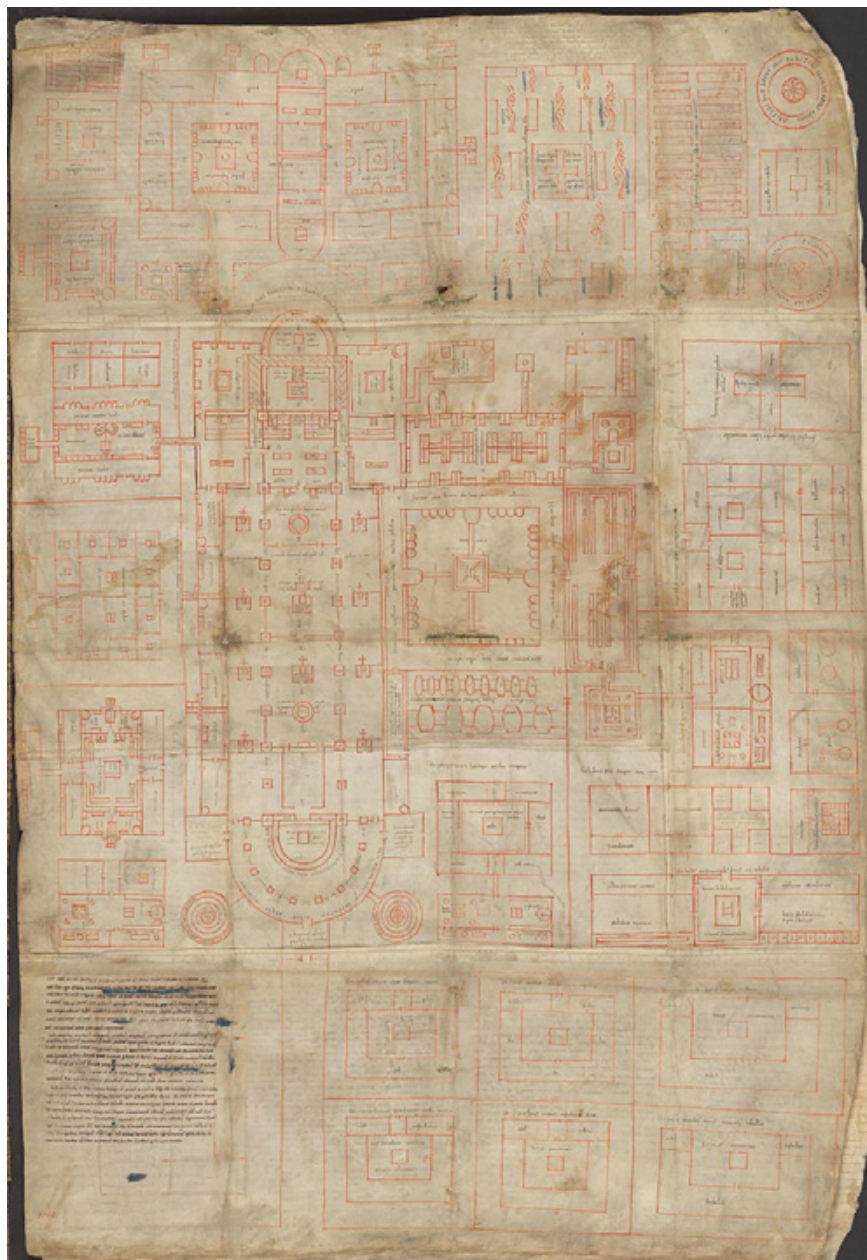


Fig. 3 – Plan of St Gallen Abbey, c.830
Workshops for blacksmiths, sword furnishers, shield makers etc. marked
Stiftsbibliothek / Abbey College Library St Gallen, public domain

flung holdings, requiring both protection and administration.³⁶

The second document is intriguing just from the fact that it is an extremely rare surviving ninth-century original, known as the *Fraumünsterrodel*.³⁷ It provides more details on the *curtis*. This included lands in the current Aargau, prime agricultural land to the west of Zurich.

The *Fraumünsterrodel* does not mention *centena* or *centenarii*, but Siegrist sees in the organisation of the former *curtis* the hallmarks of a *centena*.³⁸ The *centenarius* is a well-documented but not well understood official in the Carolingian and later hierarchy of rule. It is reasonably certain that the *centenarius* was subordinate to the local *comes*, fulfilling comital functions in a more circumscribed area.³⁹ Since part of the *comes*' duty was keeping the peace internally and externally, the *centenarius* likely mediated the *comes*' powers in this respect as well. Siegrist describes the *centena* as a "police force."⁴⁰ The fact that the *centenarius* is accorded a police function and that he also shows up in military-related sources as a lieutenant of the *comes* indicates that there was no

connection with individuals drafted into the defence of St Gallen Abbey against the Magyars in 926.

36 On the administrators by reference to the Abbey of St Gallen Wagner, *Schwerträger*, pp. 58-59, 122-24 and generally on the lay staff and servitors pp. 118-203.

37 This undated document, kept in the Zurich state archives, is reviewed and discussed in Jean Jacques Siegrist, "Zur Frühzeit der Pfarrei Schöffland," *Argovia* 93 (1981), pp. 5-98, at pp. 90-98.

38 Siegrist, "Pfarrei Schöffland," pp. 95-97.

39 Wagner, *Schwerträger*, pp. 368-75, and *passim* in connection with comital functions; Katherine Bullimore, "Folcwin of Rankweil: the world of a Carolingian local official," *Early Medieval Europe* 13.1 (2005), pp. 43-77, at pp. 45-47 and *passim*; Hansjörg Krug, "Untersuchungen zum Amt des 'centenarius'-Schultheiß," *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte, Germanistische Abteilung*, Part I: 87.1 (1970), pp. 1-31; Part II: 88.1 (1971), pp. 29-109; Renard, "Politique militaire," pp. 9-11. Like the *centenarius* or *sculdahis* (Schultheiß), the Lombard *gastaldus* supported the local count in official functions, including military, and was later sometimes equated with the rank of viscount: François Bougard, "Being an aristocrat in the kingdom of Italy in the age of Lothar I," in *Aristocratic Networks*, Giuseppe Albertoni, Manuel Fauliri, Leonardo Sernagiotto (eds. – Florence, Firenze University Press, 2025), pp. 11-44, at pp. 33-34.

40 Siegrist, "Pfarrei Schöffland," p. 96; similarly Wagner, *Schwerträger*, p. 370; also Krug, "Untersuchungen," 1:29 – there as leader or commander of a *scara*. A reference to a police-level use of a local call-up by a *comes* or bishop can be found in a late, 891 capitulary of Guy of Spoleto (*MGH – Capit. II*, No. 224, pp. 107-09, in cap. 1 at p. 107); Walter Goffart, "'Defensio patriae' as a Carolingian Military Obligation," *Francia* 43 (2016), pp. 21-39, at p. 37.

categorical differentiation between individuals keeping the peace and those on military service proper.

In a related document from 840, Emperor Lothar I authorised the transfer of a property from the *Fraumünster* to the monastery in Lucerne; the transfer confirmed that the duties formerly owed to the *comites* or their officials (presumably the *centernarii*) were now owed to the monastery. This encompassed the obligation to obey a call-up to the imperial host (*iter exercitale*) as well as *scara*.⁴¹

A further source of information are the polyptychs, inventories of an abbey's assets. Early polyptychs exclusively list the land holdings, while later ones include services owed. The most relevant for the purposes of this chapter is the polyptych of Prüm from 893, commissioned by the newly appointed abbot Regino. It mentions a group of individuals referred to as *scararii*.

These *scararii* have occasioned a great deal of speculation. Planitz identified them as a category of individuals providing armed service in the protection of the movement of goods but otherwise not distinct from the abbey's rural population.⁴²

Prüm's is the most explicit of the polyptychs, and there are several reasons for that. Guérault⁴³ has analysed nine Frankish polyptychs from the ninth century, all of them located between the Rhine and the Loire. The vocabulary used in Prüm is generally different from that of the others, not just in respect of *scara*.

41 Siegrist, "Pfarrei Schöffland," pp. 94-95; other obligations included *mansionaticus* (obligation to provide board and lodging to the visiting lord) and further obligations.

42 Hans Planitz, "Die Scharmannen von Prüm: Ein Beitrag zur Wehrverfassung des Mittelalters," in *Festschrift für Heinrich Lehmann*, Kölner Rechtswissenschaftliche Fakultät (ed. – Berlin, Weidmann, 1937), pp. 55-70, at pp. 56-62; Wagner, *Schwerträger*, pp. 141-42, 160-61; however, see Jean-Pierre Devroey, "Les services de transport à l'abbaye de Prüm au IX^{ème} siècle," *Revue du Nord* 61.242 (1979), pp. 543-69, at pp. 544-46. Also Renard, "Politique militaire," pp. 15-17.

43 Stéphane Guérault, "Le vocabulaire économique et technique des polyptyques," *Histoire & mesure* 18.3/4 (2003). In a similar vein, Nicolas Schroeder and Alexis Wilkin have studied previously unedited records of the Abbey of Stavelot-Malmedy, and found that the received *doxa* focussing on corvées was too schematic and simplistic. They urge a re-evaluation of the received wisdom on domain management on the basis of the more granular evidence – *id.*, "Documents de gestion inédits provenant de l'abbaye de Stavelot-Malmedy et concernant les domaines de Lantremange, Jenneret et Louveigné (X^e-XII^e siècle)," in: *Bulletin de la Commission royale d'Histoire*, 180 (2014), pp. 5-48.

He notes that Prüm is at the same time the youngest of the nine; the polyptychs from the early ninth century tend to focus primarily on the land holdings, with mentions of related service obligations increasing over time. It is also the one furthest north-east.

The timing of the Prüm polyptych adds to the argument. Prüm was sacked by Normans in 882 and again in 892. Regino's brief on his appointment as abbot in 892 was to improve the defences of Prüm, so it is unsurprising that when he commissioned the drafting of the polyptych, he would pay close attention to the military services. Finally, the issues facing the other abbeys were the same as those facing Prüm, and the other polyptychs do not elaborate alternative solutions.

Prüm is the clearest example, but there are others using at least similar terms. The polyptych of Saint-Bertin (844-859) mentions *herescarii* – a(nother) *hapax legomenon*. Though the exact meaning here as well remains enigmatic, Renard is in no doubt that it refers to an armed, (para)military service provided by the rural citizenry and associated with protecting transports or patrolling a stretch of highway or both.⁴⁴ Wagner, analysing the surviving original witnesses in the Abbey of St Gallen, explores a further raft of descriptors with mostly banal lexical meanings but with functions that may entail bearing arms and hence qualify the individual as member of at least a defensive force or auxiliaries.⁴⁵

Numbers...

I have here proposed a pyramidal structure for the universe of individuals populating the spectrum from armed guard of a transport via detail policing a stretch of highway, citizen watch keeping the peace in town, armed retinue of a magnate, local self-defence against raids, to finally member of an imperial expeditionary army, with stations in between.⁴⁶

44 I.e. both *guerriers* and *paysans* – Renard, “Herescarii,” pp. 264-65 and *passim* – the *herescarii* were located on major highways: *ibid.* pp. 269-70.

45 Wagner, *Schwerträger*, pp. 191-96; see e.g. fn 18.

46 Though the provision is in a different context, the list in cap. 2 of the 811 *Capitulare Bononiense* is instructive, apparently referring to services that could be exacted but did not relate to a call-up to the imperial host: “Neither patrol duty nor *scara* nor guard duty nor quartering nor any other duty (*nec de wacta nec de scara nec de warda nec pro heribergare neque*

The individuals at the base of the pyramid were probably either very young or advanced in age, and carried only the most basic arms. Ascending the pyramid meant greater experience, more elaborate armour, better arms – the spectrum from the lightest of infantry to the heavy.⁴⁷

Seeing the arms-bearing individuals in this way allows us to approach the vexed question of the size of Carolingian armies from a different side. A health advisory is appropriate: The rough calculations presented here are all based on numbers and extrapolated by factors that are little more than reasonable conjectures or educated guesses, and are furthermore plucked from different geographies and sometimes different centuries. I am therefore arbitrarily suggesting that if the results of two different methodologies are within a factor 2, the result should be read as a confirmation.

Wallace quotes a figure of 145,000 men as being the potential military resources available to Charlemagne.⁴⁸ If we saw this reservoir as the globality of the proposed pyramid and applied the 20% rule of thumb,⁴⁹ then the fully mobilised expeditionary host would have numbered 29,000. 29,000 is a respectable strength – in modern military terminology, such a force would form an army corps consisting of two or three divisions and be commanded by a lieutenant-general or even full general (three or four stars).⁵⁰

pro alio banno)” – *MGH – Capit. I*, No. 74, pp. 166-167, at p. 166); Renard, “Politique militaire,” pp. 14-15.

47 The capitularies are remarkably reticent about the required arms; a shield, a lance, a bow and twelve arrows must surely be understood as a bare minimum; Renard, “Politique militaire,” p. 13; B. Bachrach, *Early Carolingian Warfare*, pp. 55-57; Wagner, *Schwerträger*, pp. 61-75, 194-96.

48 Elijah T. Wallace, “Louis II’s Beneventan Expedition: Reassessing Carolingian Ambitions and Logistics in Ninth-Century Southern Italy,” *Journal of Medieval Military History* 22 (2024), pp. 44-71, at p. 55.

49 See fn 22 and below. That one must differentiate between the total available reservoir and the realistically draftable Karl F. Werner, “Heeresorganisation und Kriegführung im deutschen Königreich des 10. und 11. Jahrhunderts,” in: *Structures politiques du monde franc (VI^e-XII^e siècles): études sur les origines de la France et de l’Allemagne* (London, Variorum Reprints, 1979), No. III., pp. 316-17.

50 Or six modern brigades, or five Roman legions from the later empire. By comparison, the UK Army Regular Forces as at 1st January 2025 numbered 73,847 – <https://www.gov.uk/government/statistics/quarterly-service-personnel-statistics-2025/quarterly-service-personnel-statistics-1-january-2025>, last queried 24th October 2025.

Wallace goes on to discuss the logistics of moving and supplying an early medieval army.⁵¹ A contingent from the north of France destined for a campaign in say Iberia would have to traverse the entire empire to join up. This trip would take considerable time and resources. It is therefore likely that a force destined for an Iberian campaign would be drawn from a geographically closer catchment and hence be correspondingly smaller, in an order of up to 10,000.⁵² A baseline figure of 29,000 leaves plenty of room for a partial call-up that still yields a substantial host.

Wallace also discusses the possible ratio of cavalry to infantry. On the basis of information on the Abbey of Bobbio and some inferences, he estimates that Bobbio's contingent would have consisted of 40 cavalry and 332 infantry, a ratio of 1:9 or 1:10.⁵³

But it is not a given that a call-up would always have been for both cavalry and infantry. Possibly, the call-up for the infantry was confined to contiguous regions, but the cavalry call-up extended further into the empire. Under this assumption, the elite element of a partial force would be disproportionately greater than in a call-up of the entire force.⁵⁴

Distinguishing between the reservoir of fighters and the number realistically available for call-up allows us, I submit, to bridge the gap between the methodologies used for calculating the size of Carolingian hosts. It might also allow us to see *lantweri* in a different light.⁵⁵ It could refer to a situation where *all* effec-

51 Wallace, "Beneventan Expedition," pp. 59-62.

52 Werner, "Heeresorganisation," p. 816, Halsall, *Barbarian West*, p. 132, and Renard, "Politique militaire," pp. 2-8, all gravitate to the 10,000 level as an average upper limit, but Renard points out that comparable civilisations were capable of fielding much larger armies.

53 Wallace, "Beneventan Expedition," p. 56.

54 The above estimates are not out of line with the numbers arrived at by e.g. Halsall, *Barbarian West*, p. 132, or Wallace, "Beneventan Expedition," pp. 56-57 and *passim*; see also the discussion with Goldberg, "Tractoriae," p. 20. The *Indiculus Loricatorum* as well supports this view; Otto II was only raising *cavalry* reinforcements in Germany, the infantry were likely raised locally south of the Alps.

55 See Goffart, "Defensio patriae," especially pp. 25-26 and 30-31. Reference to *lantweri* in the 847 Capitulary of Meerssen (*MGH – Capit. II*, No. 204 cap. III (5), p. 71). If my suggestion is correct, it would support Goffart's argument (and see the secondary literature referenced there) that *lantweri* refers to a situation, and not to a division of the host in the sense of "Home Guard" or "*Landwehr*." In a way probably not intended by Goffart, it implies that the *iter exercitale* obligation to join the imperial host is narrower than the *lantweri* obligation. On the



Fig. 4 – David slaying Goliath – Stuttgart Psalter
Cod. bibl. fol. 23, fol. 165^r, produced Saint-Germain-des-Prés, early ninth century
Württembergische Landesbibliothek, public domain

tives, not just the imperial army's 20%, are turned out in response to a suddenly arising threat. Logically, the short reaction time would mean that the catchment area would be tightly circumscribed, avoiding lengthy marches to the assembly point. It would also mean that the participants could return home quickly after the emergency had been dealt with.

Karl Werner reverse-engineered the size of the heavy cavalry (*schwerbewaffnete Panzerreiter*) corps and arrived at a figure of up to 30,000.⁵⁶ If we then apply Wallace's ratio of 1:9 cavalry-infantry, the total reservoir would be 300,000, of which the number realistically available would be 60,000.⁵⁷ These are double the figures in, or derived from, Wallace's analysis, so at the borderline of my self-imposed reality-check.

The larger figures leave more room for a geographically restricted call-up to assemble a force. Another factor may be that there was still a marked difference in the level of economic, population, and logistical development between those parts of Francia that had been under Roman administration and so benefited for the Roman empire's infrastructure legacy, and the relatively underdeveloped areas in the former Germania.⁵⁸ A calculation based on data from the south of France will yield much higher numbers than one based on figures from, say, Saxony.

The 20% ratio is also amenable to a reality-check. In the eleventh century, the bishop (by then prince-bishop) of Liège commanded a force of 700 mounted fighters.⁵⁹ The largest contingents in the *Indiculus Loricorum*, those of the

other hand, it does not contribute to the resolution of the question whether "homeland defence" was a new concept or a preexisting one. Wagner, *Schwerträger*, on p. 198 refers to the *defensio patriae* in passing, but in relation to the eleventh century.

56 Werner, "Heeresorganisation", pp. 820. Werner used a different methodology than the one applied here, so a reverse-crosscheck is permissible: Assuming a total reservoir of heavy cavalry of 30,000, the forces called up under the *Indiculus loricorum* – 2,000 – represent 7% of that figure. However, the *Indiculus* only listed the *reinforcements*, and Otto II deliberately did not call up any Saxon contingents at all because he was (rightly, as it turned out) worried about trouble at that frontier (*ibid.*, p. 808, 823-31); Renard, "Politique militaire," pp. 2-3, 7-8.

57 Haack, *Krieger*, p. 212; Werner, "Heeresorganisation," p. 821, argues that the total non-cavalry reservoir would have been well above 100,000.

58 Halsall, *Barbarian West*, pp. 126-27.

59 Alain Marchandisse, "Noblesse féodale et pouvoir épiscopal dans la principauté de Liège des XIII^e-XV^e siècles," in *Noblesse et états princiers*, Marco Gentile/Pierre Savy (eds. – Rome,

Archbishops of Cologne, Mainz, and Treves, and the Bishops of Strasbourg and Augsburg, amounted to 100, or 14% of 700. The *Indiculus* is about a century earlier, so it is not unreasonable to assume that the expanding influence of Liège might have gained in the intervening period. On the other side, 15% may for medieval military organisations be a more appropriate metric than my 20%. Again, these rough-and-ready ratios yield consistent results within a reasonable margin of error.

Background developments in Francia

In the Frankish heartland, the 830s brought a change in the political environment. Whereas previously the empire had been at peace internally, the disputes among the various heirs brought internecine war to large swathes of the empire. At the same time, new threats materialised in the form of the Northmen or later the Magyars. Not only did their raids strike at places that were nowhere near a traditional “front line” and so were completely unprepared for defence; the Northmen were seaborne, a form of warfare the Carolingians had not had to deal with.⁶⁰ The multiplying smaller entities lacked the resources, the stability, and probably also the experienced staffs to effectively and efficiently organise their forces. At the same time, of course, the breakdown of internal peace and new external threats forced the magnates to be more attentive to the protection of their own possessions, further reducing their willingness to release their fighting men to the royal host.⁶¹

The dissolution of internal peace is extensively attested in the sources, ev-

École Française de Rome, 2009), pp. 209-30, at pp. 209-10.

60 Simon Coupland, “The blinkers of militarisation: Charles the Bald, Lothar I and the Vikings,” in *Early medieval militarisation*, Ellora Bennett, Guido M. Berndt, Stefan Esders and Laury Sarti (eds. – Manchester, Manchester UP, 2021), pp. 164-77, at p. 167; Wallace, “Beneventan Expedition,” p. 68.

61 The 864 Edict of Pitres in cap. 27 (*MGH – Capit II*, No. 273, pp. 310-28, on p. 321-22) says that those too poor to qualify for participation in the royal host should at home build bridges and causeways across swamps. As Goffart (“*Defensio patriae*,” pp. 31-33) points out, this provision is new in the capitulary tradition. Departing from Goffart, I suggest it can be read as a try-on by the royal authorities to *claim* jurisdiction over the individuals, but avoid an open confrontation with the magnates by not enforcing it. A confrontation was thus postponed to a future contingency, but a claim to jurisdiction had been staked.

idenced by complaints about endemic rapine; Northmen and Magyar raids as well feature extensively. Viewed strategically, the rhythm of warfare changed profoundly. Previously, the imperial general staff, as it were, formulated their campaign plans before Christmas. Marching orders were issued in the early months of the year, with instructions to assemble at a designated location in late spring or early summer.⁶² If a magnate had campaign-related duties that required a *tractoria*, it was issued for the specific purpose. The empire had the initiative.

Now, the polities were forced into reactive warfare, not only on the level of the kingdom itself, but – in the case of raiders – at a local, granular level. When such an incursion happened, *all* effectives had to mobilise *immediately*, and under the *comites* or other local commanders if necessary.⁶³ Goldberg sees this mirrored in the development of the institution of the *tractoriae*: The bishops to whom fell the role of organising and monitoring the call-ups requested that they be issued with general, perpetual *tractoriae* so that they could undertake the missions without having to wait for the requisite documents to be issued by the royal chancery. The *tractoriae* fell into disuse not because they were no longer needed, but because they were institutionalised.⁶⁴

The various kings of the Carolingian successor-polities struggled to adapt to the changing circumstances. They were not without partial success, as measures taken by Charles the Bald illustrate – he ordered the construction of fortified

62 Bernard S. Bachrach, “Charlemagne and Carolingian General Staff,” *The Journal of Military History* 66.2 (2002), pp. 313–357, at pp. 315, 318–319; a copy of an undated Carolingian marching order probably from 806 issued to Abbot Fulrad of St Quentin has been preserved: *MGH – Capit. I*, No. 75, p. 168. A contemporary document budgeted a year and six weeks of preparation for a Frankish campaign in Italy: Wagner, *Schwertträger*, pp. 50–51.

63 Goffart, “Defensio Patriae,” pp. 28, 33–36; Coupland, “Blinkers,” p. 168; Renard, “Politique militaire,” p. 18. The autonomous command by a local *comes* is not a novelty, either; in cap. 1 of a Spanish march capitulary of Louis the Pious (*MGH – Capit. I*, No. 132, pp. 261–63, at p. 261), “duties of reconnaissance and patrolling (which is commonly referred to as *wacta*) within our march (*in marcha nostra ... explorationes et excubias, quod usitato vocabulario wactas dicunt*)” under the leadership of the local *comes* are equivalent to following the call-up to the imperial host with that *comes*; Renard, “Politique militaire,” p. 17–18.

64 Goldberg, “Tractoriae,” pp. 21–24. An example of a bishop’s role in organising a call-up can be found in an 817 letter from Archbishop Hetti of Treves to his suffragan in Toul on behalf of Emperor Louis the Pious. It instructs the suffragan to immediately ready for mobilisation all effectives of abbots, abbesses, counts, royal vassals and all the people of the parish who owe royal service – *MGH – Epp* Vol 5, No. 2, pp. 277–78. Haack, *Krieger*, pp. 219–20.

bridges to stop the raiders from surging up the rivers.⁶⁵ He maintained the coastal watch instituted by Charlemagne.⁶⁶ He kept a rapid reaction force at the ready.

A rapid reaction force of necessity consists of cavalry, and cavalry is expensive as well as high maintenance. Before, the maintenance imposed on a district was limited to the time the unit was passing through on its way to the theatre. Now, the maintenance was quasi-permanent, resulting in complaints about depredations by the *homines caballarii*.⁶⁷ While Charles' measures were solution-oriented, his kingdom was never able to comprehensively get on top of the challenges.⁶⁸

It may be instructive to contrast the situation in the tenth century; Wagner does so by analysing the expedition of Duke Burkart II of Swabia to Italy in 926. The documentation suggests that Burkart drafted so many of northeastern Switzerland's effectives for the venture that the region became vulnerable to Magyar raids – though it was not completely defenceless.⁶⁹

Scararius to miles

Planitz delved deeper into the *Scharmannen*, the *scararii* of Prüm because he found a coincidence between the locations in the Prüm polyptych which identified *scararii* posts on one hand, and on the other hand the geography-derived names of knightly families in the later records. The activities of the *scararii*, he surmised, became specialised and professionalised with certain families, who leveraged their role as protectors and their facility with arms into a form of minor lordship.⁷⁰

Whether this hypothesis is correct cannot be resolved. Suffice it to say that Planitz' hypothesis is consistent with what is in fact known about the early emergence of the knightly class.⁷¹ It is also consistent with the fact that north

65 Coupland, "Blinkers," p. 170.

66 Renard, "Politique militaire," pp. 16-17.

67 Goldberg, "Tractoriae," pp. 23-25.

68 Coupland, "Blinkers," pp. 166-67.

69 Wagner, *Schwerträger*, pp. 43-54, 246-47.

70 Planitz, "Scharmannen," pp. 56, 62-69. Similarly Renard, "Élite paysanne," pp. 334-36; Wagner, *Schwerträger*, pp. 159-61, 199, 431; Santos Salazar, "Carolingian suite," p. 152.

71 The general thrust of Wagner's dissertation (*Schwerträger*, pp. 121-22, 431-32 and *pas-*

of the Alps, knights were predominantly an element of the rural power structure with at least a rudimentary power base independent of the lord they were serving. Such an autonomous power base would be absent had the institution of knighthood emerged exclusively from magnates' entourages.

Summary and conclusion

Goffart in 2018 pushed against the proposition that the capitularies of the early 800s evidence a *Heeresreform*, a change in the military constitution involving the introduction, as a novel concept, of a personal military service obligation.⁷² It would have required a far greater explanatory effort than the few lines in the capitularies to introduce an issue as fundamental, as burdensome, and as organisationally complex as personal military service at the draftee's own cost. It also would have occasioned far more comment⁷³ – Carolingian churchmen as a species were politically engaged and quick to put quill to parchment when their affairs were affected.

Implicitly, I am going a step further: In the period between around the accession of Charlemagne in 768 and the post-800 capitularies, there was a subtle yet fundamental shift in the military constitution. Before Charlemagne embarked on his aggressive expansion, every common man was in principle subject to an obligation of military service. Who exactly was obliged to do what for how long – i.e. the different categories of free or even unfree for defence or expedition – was nebulous and never tested, and probably differed by region.

Charlemagne's growing requirements led to high command reaching ever further down the pyramid to raise troops for the imperial army. This prompted the magnates to push for a clear demarcation, ring-fencing their forces and their income-generating common populace.⁷⁴

sim) is also that progressive militarisation of society from the eighth to the eleventh century enabled the social rise of individuals or groups who habitually and routinely bore and wielded arms in the exercise of their function or office, and their consolidation toward the end of that period into a distinct military class.

72 Goffart, "Recruitment."

73 When Istria, until then under Byzantine control, in 804 came under Carolingian rule and the general service obligation was imposed, the new policy was robustly protested by the population – Majocchi, "Esercito," pp. 116-17.

74 Tentatively Renard, "Politique militaire," pp. 22-24, 26-27; *id.*, "Élite paysanne," pp. 320-21;

The common approach to the question of who populated the Carolingian army tends to be binary: The capitularies defined who was a soldier; anyone not falling into that category had no military function. This chapter set out to show that in Carolingian times, the notion of “military” was a fluid one, covering a spectrum of duties beginning with the preservation of the peace locally and the smooth functioning of the economy on a day-to-day basis. These duties involved being in arms, from rudimentarily armed escort to well-equipped member of a magnate’s entourage; they could involve fighting or (as in hunting) the use of weapons.⁷⁵

The imperial Carolingian army as it emerges from the capitularies tapped only a fraction of this reservoir at any given time. The bulk of the individuals comprising this reservoir continued to engage in their regular duties. When a dire emergency arose, such as a raid, the obligation to be ready to fight could be expanded to the entirety of the spectrum for a narrow geography, and the leadership could reside with a local officer rather than high command.

The evidence for the existence of this expanded reservoir comes from several directions. The first is surely in the nature of the matter; the functions in question exist at any time and in any society. Somebody has to perform them, and there is no evidence that someone else was tasked with the duties.⁷⁶ Indeed, the institution of a dedicated police force is a comparatively recent, nineteenth century development in Western society.

But there is also ample positive evidence for the existence of this wider reservoir. In the capitularies themselves, as shown, we find provisions that only make sense on that basis. Other documents – charters and polyptychs – as well contain references to such expanded functions. The capitularies fall into disuse in the tenth century, but we instead have a greater wealth of narrative sources referring to magnates’ actual militaries. It is again unlikely these arose suddenly.

Finally, the hypothesis allows us to more closely align the disparate propositions on the size of the Carolingian military, however defined. The reason I

coming on the timeline from the other side Halsall, “Kingdoms,” pp. 52-53 and 72-73, though again, my aitiology for the development is different.

75 Wagner, *Schwerträger*, pp. 432-35.

76 Similarly Wagner, *Schwerträger*, pp. 41-42.

dealt in some depth with magnates' entourages is that they, too, performed these duties, and that it is my contention that the imperial high command's draft compulsion likewise extended to only part of a magnate's entourage.

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Infantries in the Kingdom of Hungary during the 16th century

by ZOLTÁN PÉTER BAGI

If the structure of various modern armies is examined, we can observe strikingly similar structures. However, if the military organization of the 16th century, including the organization of the infantry, wants to be reviewed, then an almost opaque colorful world unfolds before us. We can consider this a very exciting and transitional period, which provided the basis for the creation of modern armies. We can say that this was the age of experimentation. In my work, I will attempt to present all of this through the various infantry that fought in the Kingdom of Hungary. I will look at the social background of these, their recruitment, their organisation, their weaponry and their fighting tactics of these.

Hungarian infantry on the theaters of war in the Kingdom of Hungary during the 16th century

The military forces of the medieval and early modern Kingdom of Hungary basically consisted of three separate, but mutually dependent and complementary military organizations: the noblemen, who called themselves the Ország;¹ the armed men drafted from the inhabitants² living and serving on the noble estate (*ispáni birodalom*); and the members of the tenant peasantry/*jobbágyság*³. In

1 The word is translated into English as County. However, it actually means that the noblemen considered themselves a community of the country.

2 Gábor Szatlóczi, "A polgár, a zsellér és a jobbágy, Adalékok a győri polgárság középkori adattárához," *Győri Tanulmányok* 41 (2020), 7-31.; Gábor Szatlóczi, "A lovag, a gyalog és a had, A Magyar Királyság hadszerkezete és hadserege a mohácsi csata idején," *Aetas* 39, no. 3 (2024), 22-27.

3 In the medieval and early modern Kingdom of Hungary, tenant peasants/*jobbágyok* held a privileged social position. In exchange for movable and immovable property, they not only paid taxes to the king and their noblemen, but were also obliged to perform armed service. Szatló-

all three cases, the basis of the obligation of armed service arose from the same legal relationship: both the noblemen were obliged to preserve, or rather protect, the property of the donor in exchange of the estate, and the inhabitants and tenant peasants were obliged to preserve, or rather protect, the goods for the donor in exchange of the movable and immovable property (*sessio*) they owned. In the latter case, after the *sessio*, each of the inhabitants living in the village/*villa*//*vel-ál* was required to serve in the armed force of their landlord as an infantryman.⁴

In the medieval and early modern Kingdom of Hungary, a picture of a militant society unfolds before our eyes. Regardless of social status, there was no adult male who did not have the duty to take up arms if necessary. On the one hand, the inhabitants, as the nobleman's subjects, the so-called *várnépek*, took turns, i. e. in Hungarian *szertjárás szerint*, gave one infantryman each to defend the center of the estate, the castle/*vár*.⁵ The first mention of the service of *szertjárás* is known from the Code of Laws of King Kálmán I (1095–1116), according to which every seventh inhabitant (*civilibus hebdomadariis*) was obliged to pay a tax of 8 denarii. One day of service per week was prescribed in Article 16 of the by István Werbőczy compiled second book of *Tripartitum* of 1514. Article 15 of the same body of laws tells us who this obligation applied to in the 16th century: all peasants with houses, more specifically those who were *sessionates*, lived in houses or were cottar (*inquilinus* or *subinquilinus*).⁶ This also applied to armed service.⁷

On the other hand, the bulk of the infantry of the medieval and early modern Hungarian army was drafted of ordinary armed men made by the inhabitants based on a quota determined by the laws of the time. In principle, the king could order everyone to be called up for war. This could have amounted to as many as three hundred and fifty thousand people. However, a complete national “mobi-

czki, “A polgár, a zsellér és a jobbágy,” 7-30.; Szatlóczi, “A lovag, a gyalog és a had,” 29-36.

4 Gábor Szatlóczi, “A lovag, a gyalog és a had,” 27-29.

5 Gábor Szatlóczi, *Vár a várban, A várak népe és a mezei hadak a 16. század közepén, I. A várak népe*. Szeged: MISSILES Kiadó, 2016, 71-102.; Zoltán Péter Bagi, “A Magyar Királyság hadügyei a 16. században.” In Kálmán Mészáros ed., *Magyarország hadtörténete, Az oszmán hódítás kora 1526–1718*; vol. II. Budapest: Zrínyi Kiadó, 2020, 118.

6 Szatlóczi, “A polgár, a zsellér és a jobbágy,” 9-28.; Szatlóczi, “A lovag, a gyalog és a had,” 27-29.

7 Szatlóczi, “A lovag, a gyalog és a had,” 23-24.

lization” only took place once. In 1526, King Lajos II (1516–1526) ordered the conscription of each inhabitants in the Hungarian, Transylvanian and Slavonian territories due to extreme necessity. In other cases, only partial “mobilization” took place. Generally in the 16th century every fifth taxpayer had to be equipped as infantry and sent to war. Their monthly salary of these infantrymen also was paid during their service by those who stayed at home. It meant to amount to about twenty-five to thirty thousand infantrymen. It is important to note that this system operated unchanged even in the 17th century. The temporary army of both the noblemen and the castle-counties were formed by this infantry.⁸ The lowest, poorest part of the nobility, so-called egyházhelyes nemesek⁹ also went to war on foot in large numbers.¹⁰

These infantrymen formed the center of the medieval Hungarian army in the battle. During the march to the theater of war, they marched between the van- and the rear-guard.¹¹

In addition, mercenary infantrymen were recruited from among the inhabitants and the egyházhelyes nemesek, who served in the strongholds/*praesidium*/*Festung/végvár* of the Hungarian border defense system or in smaller or larger campaigns.¹²

However, depending on where they served, they were distinguished. Those infantrymen who protected a castle or a stronghold of the Hungarian border defense system were called *darabonts* (*Trabanten*)¹³ at the time. In contrast, infantrymen who served in field warfare not only defended a fortified place but

8 János B. Szabó, “A mohácsi csata és a „Hadügyi Forradalom,” I. rész, A Magyar Királyság hadserege 1526-ban,” *Hadtörténelmi Közlemények* 117, no. 2 (2004), 463., 471.; Szatlóczi, “A lovag, a gyalog és a had,” 20-21., 24-25., 28-29., 46-47.; Bagi, “A Magyar Királyság hadügyei a 16. században,” 119.

9 A nobleman who has a tenant peasant property (*sessio*). That is, he does not have his own tenant peasant.

10 Gábor Szatlóczi, A honfoglalás kori gyeű: az egyházhelyes nemesek és nyugat-dunántúli településterületük. In: Zoltán Péter Bagi ed., “...*ugy írassak mint volt, Ünnepi tanulmányok a 65 esztendő Sándor László tiszteletére*,” Szeged: Szegedi Tudományegyetem, 2019, 68-93.; Szatlóczi, “A lovag, a gyalog és a had,” 27-29.

11 Szatlóczi, “A lovag, a gyalog és a had,” 46.

12 Szatlóczi, “A lovag, a gyalog és a had,” 46-50.; Bagi, “A Magyar Királyság hadügyei a 16. században,” 125-126.

13 The meaning of the word is: an armed person who guards a place or someone.

also had active combat duties. Thus, we can conclude that all *darabonts* were also infantrymen, but not all infantrymen were *darabont*.¹⁴

Wherever they served, the infantrymen, drafted from the inhabitants and *egyházhelyes nemesek*, were organized into, often mixed, smaller units, so-called *section/tized/tizedalja* and larger units so-called voivodeships/*vajdaság/zászló/hadnagyság*.¹⁵ The section was led by a corporal, while the latter was commanded by a voivode/*hadnagy*.

Each infantry voivodeship consisted of a maximum of ten section, i. e. one hundred men, but depending on the task, it was most often drafted of smaller units, for example fifty men, often forty men or twice forty, i. e. eighty men.

In the occasional temporary army of the castle-counties, the noblemen's small infantry troops were artificially organized into sections, and they were led by selected corporals and voivode/*hadnagy* from the nobility, while the large infantry troops of the landlords went into battle under their own voivodes/*hadnagys* and corporals. Not surprisingly, in the case of a campaign or encampment, a full infantry force, i. e. a hundred men, was never composed of a hundred men, just like the cavalry, and was by no means completely without horses. The infantry carried equipment, camp equipment, food and weapons with them just like the cavalry. It is clear from the few, scattered surviving sources that the infantry had one wagon or cart per ten, which also included one to three wagoners and their attendants.¹⁶

The other group of the Hungarian infantry, the Heyducks, who were mainly from the Great Plain until the end of the 16th century and were also served as mercenaries. Their name soon became synonymous with the Hungarian in-

14 Sándor Takáts, *A magyar gyalogság megalakulása*, Budapest: Magyar Tudományos Akadémia, 1908, 22-28.; Sztálóczki, *Vár avárban*, 55-176. *passim.*; Sztálóczki, "A lovag, a gyalog és a had," 26., 37., 44.; Bagi, "A Magyar Királyság hadügyei a 16. században," 119-121.

15 Today we would translate the word *hadnagy* into English as lieutenant. The original meaning of the English lieutenant is: someone's deputy. In today's Hungarian army, it is used in a similar way: as the deputy of the company commander. As the commander of a platoon. In contrast, in the 16th-century Hungarian military organization, a *hadnagy* could lead 50 or 100 soldiers or an entire army, too.

16 Sztálóczki, "A lovag, a gyalog és a had," 46-50.; Bagi, "A Magyar Királyság hadügyei a 16. században," 120., 124.



István Bocskai and his Heyducks

https://en.wikipedia.org/wiki/Hajduk#/media/File:Bocskai_and_his_hajdu%C3%BA_warriors.jpg

fantry.¹⁷ Despite this, in the 16th century and even during the Long Turkish War (1591–1606), we find mention in the sources that quite a few of them also served on horseback.¹⁸ Strangely, we do not find their names in any of the lists of troops assigned to the strongholds of Hungarian border defense system of 1576, 1582 and 1594. This may be explained by the fact that the Heyducks were occasionally recruited and only sent to defend a castle or strongholds in case of danger.¹⁹

17 László Nagy, *Hajdúvitézek*, Budapest: Kossuth Könyvkiadó, 1986, 68.; Mária Ivanics, “Anmerkungen zur Etymologie hajdú ‘Heiduck’,” *Acta Orientalia Academiae Scientiarum Hungaricae* 48, no. 3 (1995), 391.

18 Nagy, *Hajdúvitézek*, 68-70.; Zoltán Péter Bagi, “Két Győrrel kapcsolatos mustra- és fizetési jegyzék 1545-ből és 1546-ból,” *Győri Tanulmányok* 39 (2018), 162.; Zoltán Péter Bagi, “A Bocskai-felkelés előzményei é az álmosd-diószei rajtaütés,” In Teréz Oborni and Balázs Viktor Rácz eds., „Országunknak fő végháza, Várad...” Várad és a Partium a 16 – 18. században, Nagyvárad: Varadinum Kulturális Alapítvány, 2025, 9-64.

19 Takáts, *A magyar gyalogság megalakulása*, 28-41.; Nagy, *Hajdúvitézek*, 1986.; Géza Pálffy, “A magyarországi és délvidéki végvárrendszer 1576. és 1582. évi jegyzékei,” *Hadtörténelmi Közlemények* 108, no. 1 (1995), 114-185.; Bagi, “A Magyar Királyság hadügyei a 16. század-

In connection with the Heyducks, we should briefly mention the so-called freelance Heyducks, too. The term had a pejorative meaning in the 16th century, as it was applied to all those wandering, armed South Slavs and Hungarians who, having broken away from society, became free from dependence on the landlord, and were therefore free to be hired by the one who promised the most for their services. This could be a fixed-term wage or a share of the booty obtained during raids. The number of those who supported themselves and, in many cases, their families largely by plundering and pillaging increased dramatically during the Long Turkish War. In his letter to Ferenc Nádasdi on 22 June 1601, András Orosi captain of Vác reported, with considerable exaggeration, that the expected size of the Ottoman army preparing to attack the Kingdom of Hungary would be 80,000 men, including 20,000 Heyducks.²⁰ In fact, this name was applied to all the armed men who served in István Bocskai's army (Bocskai uprising 1604–1606) at the beginning of the 17th century. So it became a collective term at that time.²¹ So the Heyducks were indeed “free”, but they constituted only a part of those who could be temporarily hired as mercenaries or for booty and plunder.²²

Moreover, the status of freelance Heyducks cannot be interpreted solely within the specific Hungarian (Eastern-Central European) context. The word *Freibeuter*, which appears in the German-language documents, refers to soldiers in a similar position. In the Hungarian historiography they are often translated as free hajduks, but this can be a cause for misunderstanding precisely because of the specific connotation of the term. The word was actually known and widespread throughout Europe. The so-called *vrijbueters* also appeared in the 16th century fights in the Netherlands, who, under the promise of higher wages, often changed their masters and raided deep into enemy territory in the hope of obtaining booty and prisoners. We cannot assume that these types of warlike

ban,” 120.

20 Österreichisches Staatsarchiv (ÖStA) Haus., Hof- und Staatsarchiv (HHStA) Staatenabteilungen (StAbt) Türkei I. June 22, 1601. folio: 219r; Zoltán Péter Bagi, „*En alig voltam erősb és rettenetesb harczon és viadalon, mint ez vala.*” *A keresztény és az oszmán főserég harca 1601-ben*, Iszkaszentgyörgy: Iszkaszentgyörgyi Községi Önkormányzat, 2016, 82.; Bagi, “A Magyar Királyság hadügyei a 16. században,” 122.

21 Nagy, *Hajdúvitézek*, 153–181.

22 Takáts, *A magyar gyalogság megalakulása*, passim.; Nagy, *Hajdúvitézek*, 28–38.

elements who served either the Low Countries or the Kingdom of Spain would have been also Heyducks (freelance Heyducks). In our case, it may be that the term used in the German-speaking area was applied in the context of the Kingdom of Hungary to both Heyducks who were currently unpaid, and other looters who were armed and fought in the Heyduck manner.²³

Like the *darabonts*, the Heyducks were organized into section/*tized*/*tizedalja* and voivodeship/*hadnagyság*, which were led by corporals and voivodes/*hadnagys*. There is one significant difference in the organization of the two types of infantry in the 16th century the Heyducks elected their own officials.²⁴

Finally, I must mention the Croatian-Slavonic infantry, the *haramias*, who were called *windische Knechte* in German-language documents. In most cases, we find them in the armies assigned to strongholds of the Hungarian border defense system. The word had a pejorative meaning then, and still does today. This is not surprising, since their task was to raid, plunder and destroy enemy territory. Their organization corresponded entirely to that of the Heyducks: they were recruited in tenths and voivodeships; their officials were chosen from among themselves. We can therefore rightly assume that the writers of reports or the clerks of the Aulic War Council often confused the two different infantry types.²⁵

The question arises, what kind of weapons did the *darabonts*, the field infantrymen, the Heyducks and the *haramias* fight with? We have little and scattered data on the weapons of the inhabitants, tenant peasants and *egyházhelyes nemesek* who were temporarily drafted or recruited. Based on these, however, it seems clear that from the beginning of the 16th century, firearms were considered the most suitable weapon against the Ottoman army, especially against cavalry. According to the regulations recorded by Tamás Nádasdi in 1552, an infantry-

23 Geoffrey Parker, *The Army of Flanders and the Spanish Road 1567–1659*, Cambridge: Cambridge University Press, 1972, 17., 47–48.; János B. Szabó, “Aszimmetrikus hadviselés a XVI. században: a magyarországi és a németalföldi hadszíntér példája,” *Hadtörténelmi Közlemények* 130, no. 3 (2017), 834.; Bagi, “A Magyar Királyság hadügyei a 16. században,” 121–123.

24 Takáts, *A magyar gyalogság megalakulása*, 45–46.; Bagi, “A Magyar Királyság hadügyei a 16. században,” 121.

25 ÖStA Kriegsarchiv (KA) Alte Feldakten (AFA) 1593–12–6; Takáts, *A magyar gyalogság megalakulása*, 113–118.; Pálffy, “A magyarországi és délvidéki végvárrendszer,” 159–168.; Bagi, “Két Győrrel kapcsolatos mustra- és fizetési jegyzék 1545-ből és 1546-ból,” 159–161.; Zoltán Péter Bagi, “Elveszve a fogalmak tengerében,” *Győri Tanulmányok* 40 (2019), 52–53.

man generally had three hand weapons: the rifle, which was already widespread in 1526, or the traditional long spear (sometimes with a bow), a sword or a saber and a battle axe. In addition, some of them also had a shield. It is worth noting that although almost all of the inhabitants already had firearms in the first half of the 16th century, the use of the long spear was still prescribed. Nádasdi himself drafted his own infantry of two hundred men in such a way, consisting of a mixture of riflemen and spearmen.²⁶ The latter were necessary because until the appearance of the bayonet, the riflemen were defenseless against cavalry attacks. In his account of a clash near Szikszó in 1592, Bálint Prépostváry, *Obrist* of Eger wrote that although the rifled infantry retreated to a hill and defended themselves valiantly, after their bullets ran out, they all were massacred by the cavalry of the Ottomans.²⁷ The spearmen, also armed with shields, therefore – similarly to the pikemen – formed a “living and protective wall” around those fighting with firearms.²⁸ In addition, the Hungarian cavalry could also provide effective support to the rifled infantry, as it did in the fight along the Rinya stream on July 23, 1556.²⁹

According to József Kelenik the drafted and the recruited Hungarian infantrymen used the firearms as their main weapons at the second part of the 16th century. For example the statute of castle-county Bars for 1602 said, for example, that infantrymen drafted by households had to be equipped with sword, gun, 50 bullets, and half a pound of gunpowder.³⁰ I must point out that the Heyducks were also armed in a similar way to the *darabonts*. In Wilhelm Dilich’s *Ungarische Chronica* we can read the following about this: „The Heyducks ... use a short gun not much longer than a carbine; on their left they carry a sabre, on their right, in a ring fixed to their belt, there is an axe or pick-axe... If someone

26 Szatlóczki, “A lovag, a gyalog és a had,” 49.

27 Csaba Csorba, *Várak a Hegyalján*, Budapest: Zrínyi Katonai Kiadó, 1980, 93.; József Kelenik, “A kézi lőfegyverek jelentősége a Hadügyi Forradalom kibontakozásában. A magyar egységek fegyverzete a tizenöt éves háború időszakában,” *Hadtörténelmi Közlemények* 104, no. 4 (1991), 33.; Bagi, “A Magyar Királyság hadügyei a 16. században,” 113.

28 Szatlóczki, “A lovag, a gyalog és a had,” 50.

29 Bagi, “A Magyar Királyság hadügyei a 16. században,” 113.

30 Kelenik, “A kézi lőfegyverek jelentősége a Hadügyi Forradalom kibontakozásában,” 37.; József Kelenik, “The Military Revolution in Hungary,” In Géza Dávid and Pál Fodor eds., *Ottomans, Hungarians, and Habsburgs in Central Europe. The Military Confines in the Era of Ottoman Conquest*, Boston: Brill Academic Publishers, 2000, 148.

is not well-to-do enough, he uses a spear until he can afford a gun”.³¹ On July 14, 1604, *Obrist* Adolf von Althan was ordered to recruit 6,000 Hungarian Heyducks. It was ordered that all of them „... shall be provided with ... good cutting weapons and guns ... as customary in the Hungarian nation”.³² In a drawn picture of the army marching to relieve Kanizsa (in the fall of 1600), the Hungarian, Croatian and Slavonian infantry (including the *haramias*) also fought with firearms.³³

The Hungarian infantry could be used in field battles or fights according to its armament. The tactical values of this “light infantry” (like the Green Coats in the English Army) in the modern sense were best exploited in raids, ambushes, small skirmishes or the defense of strategically important places (such as bridges, entrenchments, ways or crossings). In the fights of Vác–Verőce, which took place between November 2 and 9, 1597, the Christian side based its tactics on the defense of entrenchments built on hilltops against the attacks of the superior Ottoman forces. In these fights, the Heyducks stood out for their skill and dexterity, which even Giorgio Basta reported in his letter to the Spanish ambassador in Prague, Guillén de San Clemente, dated November 8, 1597. According to Basta, they steadfastly defended the entrenchment entrusted to them until the arrival of German, Walloon, French, Lorraine and Hungarian cavalry.³⁴ However, the Heyducks achieved their greatest feat of arms during their Tolna campaign in 1599, when they raided ships carrying supplies intended for the Ottoman army in Buda. With their fierce volley-firings, they inflicted enormous losses on the enemy, while their own losses amounted to six dead and nine seriously wounded. After that, they even lured the Ottoman army sent to defeat them into a trap, killing about 500 of them.³⁵

31 Wilhelm Dilich, *Ungarische Cronica*, Cassel: Gedruckt zu Cassel durch Wilhelm Wessel, 1606, 28.; Kelenik, “A kézi lőfegyverek jelentősége a Hadügyi Forradalom kibontakozásában,” 37.; Kelenik, “The Military Revolution in Hungary,” 148.

32 ÖStA KA Bestellungen 1604/778.; Kelenik, “A kézi lőfegyverek jelentősége a Hadügyi Forradalom kibontakozásában,” 37.; Kelenik, “The Military Revolution in Hungary,” 148–149.

33 ÖStA KA AFA 1600-13-3; Kelenik, “A kézi lőfegyverek jelentősége a Hadügyi Forradalom kibontakozásában,” 37.; Kelenik, “The Military Revolution in Hungary,” 148.

34 Endre Veress, *Basta György hadvezér levelezése és iratai (1597–1607). I. kötet: 1597–1602*, Budapest: Magyar Tudományos Akadémia, 1909, 16–17.; Nagy, *Hajdúvitézek*, 143.; Bagi, “A Magyar Királyság hadügyei a 16. században,” 113.

35 Nagy, *Hajdúvitézek*, 144–146.; Sándor László Tóth, *A mezőkeresztesi csata és a tizenöt éves*

Foreign infantry mercenaries on the theaters of war in the Kingdom of Hungary during the 16th century

After the Battle of Mohács (August 29, 1526) and the fall of Buda (August 29, 1541), the country became a war zone. Successive campaigns by the Ottoman army and local Turkish forces pushed the Hungarian borders of the Ottoman Empire steadily westward toward the Holy Roman Empire. By the mid-1540s, it had become clear to both King Ferdinand I and the Hungarian nobility that the revenues of the Kingdom of Hungary were insufficient to defend the country. Therefore, the Habsburg ruler had to rely on the help of other kingdoms and provinces, as well as the Holy Roman Empire. The tax they voted for (or the loan taken from the tax they voted for) part was used to hire foreign mercenary troops.³⁶ Accordingly, during the 16th century, depending on the intensity of the fighting, varying numbers of German, Walloon, French, Lorraine, Spanish, and Italian infantry fought on the theaters of war of the Kingdom of Hungary.

In the 16th century a significant number of the foreign infantry mercenaries came from the German territories to serve in the Kingdom of Hungary. Some of them were stationed at the strategically important strongholds of the Hungarian border defense system. However, most of them arrived on the Hungarian theater of war during the campaigns to fight against the forces of the Ottoman Empire. During the Long Turkish War, experienced Walloon, French, Lorraine and Italian mercenaries also appeared alongside the Germans, transferring their experience gained in Flanders and the Kingdom of France to the Hungarian theatre of war.³⁷

háború, Szeged: Belvedere Kiadó, 2000, 299–300.; Bagi, “A Magyar Királyság hadügyei a 16. században,” 113.

36 ÖStA KA AFA 1592-2-1; ÖStA Finanz- und Hofkammerarchiv Alte Hofkammer Niederösterreichische Landtagsakten Fasc. 56. fol. 1183r-1192v; Winfried Schulze, *Reich und Türkengefahr im späten 16. Jahrhundert*, Studien zu den politischen und gesellschaftlichen Auswirkungen einer äußeren Bedrohung, München: Beck Verlag, 1978.; Géza Pálffy, “A törökellenes határvédelmi rendszer fenntartásának költségei a 16. század második felében,” In Tivadar Petercsák – Mátyás Berecz eds., *Végvár és ellátás*. Studia Agriensia 22., Eger: Dobó István Vármúzeum, 2001. 189-202.; Zoltán Péter Bagi, “Tervezetek a győri végvidék költségeinek csökkentésére a 16. század végén,” In „Emlékezetek róla, ha újra csatára keltek!” *Tanulmányok Hermann Róbert 60. születésnapja tiszteletére*, vol.: I. Budapest: Zrínyi Kiadó, 2023, 25-27.

37 József Kelenik, “A Hadügyi Forradalom és hatása Magyarországon a tizenöt éves háború idő-



A Dutch musketeer, holding a musket; painting by Jacob van Gheyn in 1608
[https://en.wikipedia.org/wiki/Musketeer#/media/File:Jacob_de_Gheyn -
Wapenhandelinge_4.jpg](https://en.wikipedia.org/wiki/Musketeer#/media/File:Jacob_de_Gheyn_-_Wapenhandelinge_4.jpg)

In the 16th century and the first half of the 17th century, the Habsburg rulers, and more rarely the Austrian provinces or imperial circles, commissioned experienced and enterprising professional military entrepreneurs/*Obrists* to recruit and set up smaller and larger mercenary units of any nationality fighting in the army of Habsburg Empire. However, it also happened that one such person volunteered for this task himself. The two parties concluded a contract with each other, according to which the ruler obliged himself to provide the recruitment money, as well as the supply of wages and food. In addition, he granted the military entrepreneur/*Obrist* full authority in managing the internal affairs of the given *Fahne/Fähnleins*/units or regiment, since he could appoint its officials and decide on the admission and dismissal. Based on the latter, it is not surprising that the commissioned military entrepreneurs/*Obrists* considered the hired units as their own property. In exchange, the military entrepreneur/*Obrist* agreed to recruit a specific number of troops who would remain in service for a specific period of time, usually three or six months. He also undertook to provide the hired mercenaries with appropriate weapons.³⁸

But what did a good military entrepreneur/*Obrist* have to be like? We can only give a complete answer to the question posed by approaching it from several angles. By the first third of the 16th century, recruitment and the provision of equipment required increasing organization, as Reinhard Baumann puts it, and the formation of *Landsknecht Fahnes* had already lost the randomness that had characterized them until then. The recruitment and maintenance of both infantry and cavalry consumed enormous sums of money, which were often financed by the military entrepreneur/*Obrist*. These sums could usually only be paid out of

szakában,” *Hadtörténelmi Közlemények* 103, no. 3 (1990), 85-95.; József Kelenik, “A kézi löfegyverek jelentősége a Hadügyi Forradalom kibontakozásában. A császári-királyi hadsereg fegyverzetének jellege Magyarországon a tizenöt éves háború éveiben,” *Hadtörténelmi Közlemények* 104, no. 3 (1991), 80-122.; Kelenik, “The Military Revolution in Hungary,” 130-137.

38 Friedrich Edelmayer, *Söldner und Pensionäre. Das Netzwerk Philipps II. im Heiligen Römischen Reich*, München: Verlag für Geschichte und Politik/R. Oldenbourg Verlag, 2002, 174-202, 227-264.; Zoltán Péter Bagi, *A császári-királyi mezei hadsereg a tizenöt éves háborúban. Hadszervezet, érdekérvényesítés, reformkísérletek*, Budapest: Históriaantik Könyvesház, 2011, 117-119., 141-142.; Zoltán Péter Bagi, “The Organization of the Imperial Army in Fifteen Years War,” *Chronica Annual of the Institute of History University of Szeged* 12 (2016), 168-169.

loans, taking considerable risks.³⁹ This is why I find the thoughts of Fritz Redlich apt, according to whom the military entrepreneur/*Obrist* had to combine martial virtue with merchant cunning and insight. His success depended on how he was able to organize his team, provide an adequate financial background for this, and also monitor the currents of high politics.⁴⁰

The person of the military entrepreneur/*Obrist* was also important for the mercenaries, since on the one hand, the name of a person with a good reputation, good connections and experience in warfare promised them a livelihood and abundant booty. On the other hand, he had a patriarchal role towards his recruits, since from the very beginning of the organization of the unit, he made his own people the officials who carried out the recruitment. The recruitment money, the salary, and the half-monthly payment for the resignation were paid to the military entrepreneur/*Obrist* by the Court Chamber (*Hofkammer*), which he was then supposed to distribute to his subordinates. In addition, the military entrepreneur/*Obrist* – in the case of the infantry – was also the supreme judge within the unit.⁴¹

In addition to the recruiting “entrepreneurs” (*Militärunternehmer* or *Obrist/Oberst*) and captains (*Hauptmänner*), there were also large numbers of Southern German noblemen (from Bavaria, Tyrol, Württemberg, and Swabia), as well as wealthy urban patrician youths in the infantry. Their roles were not limited to offices on the staffs of *Obrists* or in the *prima plana* that directed these *Fahnes*; they also enlisted as *Doppelsöldner*, mercenaries who volunteered for frontline

39 Fritz Redlich, *The German Military Enterpriser and his Work Force. A Study in European Economic and Social History*, Wiesbaden: Franz Steiner Verlag, 1965, 41.; Reinhard Baumann, *Landsknechte. Ihre Geschichte und Kultur vom späten Mittelalter bis zum Dreißigjährigen Krieg*, Munich: Beck Verlag, 1994, 167-170.; Bagi, *A császári-királyi mezei hadsereg a tizen öt éves háborúban*, 119.

40 Redlich, *The German Military Enterpriser and his Work Force*, 64.

41 Eugen Heischmann, *Die Anfänge des stehenden Heeres In Österreich*, Vienna: Österreichischer Bundesverlag, 1925, 37-38.; Redlich, *The German Military Enterpriser and his Work Force*, 55-57.; Hans-Michael Möller, *Das Regiment der Landsknechte. Untersuchungen zu Verfassung, Recht und Selbstverständnis in deutschen Söldnerheeren des 16. Jahrhunderts*, Frankfurter historische Abhandlungen 12. Wiesbaden: Steiner Verlag, 1976, 13-14., 115-118.; Baumann, *Landsknechte*, 92., 176-180.; Bagi, *A császári-királyi mezei hadsereg a tizen öt éves háborúban*, 120.

duty in exchange for double pay.⁴² A good example is the *Doppelsöldner* registry for Karl Ludwig Graf zu Sulz's infantry regiment, dated July 16, 1602. According to this document, those equipped with a round shield (*Rundschier*) included even persons of baronial descent, like Ulrich and Hans Leonhard Freiherr zu Spauer.⁴³ One year later, Georg Leschenbrandt reported that large numbers of men from the nobility and gentry (*Herren- und Rittenstand*) of Lower Austria had shown up to enlist in Georg Andreas von Hofkirchen's infantry *Fahne*.⁴⁴ In hopes of opportunities for advancement, many captains became *Doppelsöldner* during the reorganization and merging of regiments, as Emperor Rudolf II's letter to Archduke Matthias mentions in relation to Hans Prenier zu Stübing's regiment.⁴⁵ The majority of these men had originally held the rank of the private first class/*Gefreite*, often given to soldiers of noble blood, either in the 'Obrist's *Fahne* or his lieutenant's.⁴⁶

What led these noblemen to enter the service of a military entrepreneurs? Like advantageous marriages, enlistment in the military had become an important means of improving one's lot. The pay and the spoils of war could make it financially profitable, and it also served as a strategy for social advancement. And beyond these possible gains in income and prestige, the desire for adventu-

42 Zoltán Péter Bagi, "The Life of Soldiers during the Long Turkish War (1593–1606)," *Hungarian Historical Review* 4, no. 1 (2015), 387.

43 ÖStA KA Hofkriegsratakten (HKRA) Wien Expedit (Exp.) 1602. Juli No. 15; Reinhard Baumann, *Das Söldnerwesen im 16. Jahrhundert im bayerischen und süddeutschen Beispiel. Eine gesellschaftsgeschichtliche Untersuchung*, Miscellanea Bavarica Monacensia 79. Munich: Wölfle Verlag, 1978, 66–68., 96.; Brage Bei der Wieden, "Niederdeutsche Söldner vor dem Dreißigjährigen Krieg: Geistige und mentale Grenzen eines sozialen Raums." In Bernhard R. Kroener, and Ralf Prüve eds., *Krieg und Frieden. Militär und Gesellschaft in der Frühen Neuzeit*, Paderborn–Munich–Vienna–Zürich: Schöningh Verlag, 1996, 94.; Antonio Liepold, *Wider den Erbfeind christlichen Glaubens. Die Rolle des niederen Adels in den Türkenkriegen des 16. Jahrhunderts: Europäische Hochschulschriften*, Reihe III. Geschichte und ihre Hilfswissenschaften. Band 767. Frankfurt am Main–Berlin–Bern–New York Paris–Vienna: Peter Lang Verlag, 1998, 133–135.; Bagi, "The Life of Soldiers during the Long Turkish War (1593–1606)," 387.

44 ÖStA HKRA Wien Exp. 1603 August. No. 99.; Bagi, "The Life of Soldiers during the Long Turkish War (1593–1606)," 387.

45 ÖStA KA HKRA Wien Registratur 1601. Oktober No. 136.; Bagi, "The Life of Soldiers during the Long Turkish War (1593–1606)," 387.

46 Kelenik, "A kézi löfegyverek jelentősége a Hadügyi Forradalom kibontakozásában," 118.; Bagi, "The Life of Soldiers during the Long Turkish War (1593–1606)," 387–388.

and the resultingly poor crop production, had a severe effect on living conditions. The hope of monthly payment and the loot enterprisers promised attracted the impoverished, who were struggling to supply themselves and their families with more and more expensive food on smaller and smaller wages. These included the suburban poor (guild apprentices, day laborers, domestic servants),⁴⁸ craftsmen in under-remunerated professions (bakers, weavers, fabric dyers, tailors),⁴⁹ and agricultural workers who had lost their means of subsistence to population growth and the resulting fragmentation of property (peasants, servants, day laborers, and farmhands).⁵⁰ Wandering beggars, drifters, criminals, clergymen, and students also enlisted in the military,⁵¹ and even women gave soldiering a try.⁵² Thus, the hierarchy within the army faithfully imitated the established structure of society. This is why Brage Bei der Wieden referred to the 16th century German army as a “parallel society” (*Nebengesellschaft*).⁵³ I must point out that in the case of Walloon, French, Lorraine and Italian infantry mercenaries, we also find the same motivating factors behind their going into the service.

The recruited German, Walloon, French, Lorraine or Italian regiments were therefore led by the entrepreneur/*Obrists*. Their work was helped by the staff of the regiment was composed of the immediate team (*Obristen Statt*) of the entrepreneur/*Obrist*, and of the so-called “team of higher officers” (*Statt der hohen Amter*) responsible for the orderlines, provision and organization of the regiment. To this immediate team of the *Obrist* belonged his lieutenant (*Oberstleutnant*). If the entrepreneur/*Obrist* was not present at his troops, which was quite frequent, his mentioned helpers had to take charge. A regiment was constituted by ten *Fahne* in which generally 300 or 400 soldiers served. The *Fahne* was led

48 Reinhard Baumann, *Georg von Frundsberg. Der Vater der Landsknechte und Feldhauptmann von Tirol*, Munich: Süddeutscher Verlag, 1984, 46.; Edelmayer, *Söldner und Pensionäre*, 256

49 Peter Burschel, *Söldner im Nordwestdeutschland des 16. und 17. Jahrhunderts: Sozialgeschichtliche Studien*, Göttingen: Vandenhoeck & Ruprecht, 1994, 58-70.

50 Baumann, *Das Söldnerwesen im 16. Jahrhundert*, 85.; Burschel, *Söldner im Nordwestdeutschland*, 72-87.

51 Burschel, *Söldner im Nordwestdeutschland*, 86-99.

52 Tobias Coberus, *Observationum medicarum castrensiarum Hungaricarum decades tres*, Helmstadt: Fridericus Lüderwaldus, 1685, 44.

53 Wieden, “Niederdeutsche Söldner vor dem Dreißigjährigen Krieg,” 97-98.

by the *Hauptmann*, who was helped by his own staff called *prima plana* or *der Hauptleut erstes Platts* in his work. Similarly to the staff of the entrepreneur/*Obrist* it was composed of military officials responsible for the organisation of the daily routine. It is important to note that the first *Fahne* was directed by the *Obrist* as *Hauptmann*. The second was led by the lieutenant of the *Obrist*. This meant that both of them received salaries for two different positions.⁵⁴

During the Long Turkish War, German infantry regiments had twice as many musketeers and riflemen as the so-called *Doppelsöldners* armed with pikes, halberds or two-handed swords. However, since the use of firearms was considered the most effective in the fight against the Ottoman army and ensured the tactical superiority of the Christian army in field battles, the ratio of those equipped with these weapons in these units constantly increased, and in some cases even approached a ratio of five to one. In the great anti-Ottoman war of the turn of the 16th and 17th centuries, the Aulic War Council recruited several regiments of Walloons, Lorraine and French, considered to be some of the best infantry of the time. These mercenaries were mostly equipped with firearms, and their successes on the battlefield were due to their great firepower. In their case, the number of pikemen and halberdiers made up one-seventh of the entire unit, so we can rightly consider them more like rifle regiments.⁵⁵

The Spanish were considered one of the best infantry in 16th century Europe. As Geoffrey Parker noted: they „were always acknowledged the bravest and most furious in attack, as well as the most pitiless”.⁵⁶ Between 1521 and 1553, a part of the Spanish infantry fought against the Ottoman troops in the Kingdom of Hungary for a shorter or longer period. Their first unit, about 700 riflemen from Old Castile, arrived in the Austrian provinces under the command of Medina del Campo, accompanied by Ferdinand I. Many of them took part in the defense of Vienna in 1529, and then, presumably after the retreat of the Ottoman army, we find them among the Habsburg troops that recaptured the Danube

54 Bagi, “The Organization of the Imperial Army in Fifteen Years War,” 169-172.

55 Kelenik, “A Hadügyi Forradalom és hatása Magyarországon a tizenöt éves háború időszakában,” 85-95.; Kelenik, “A kézi löfegyverek jelentősége a Hadügyi Forradalom kibontakozásában,” 81-99., 110-121.; Kelenik, “The Military Revolution in Hungary,” 123-131., 134-136.

56 Parker, *The Army of Flanders and the Spanish Road*, 15-16.

strongholds, including Esztergom. The last major Spanish unit that fought in the territory of the Kingdom of Hungary between 1548 and 1553 was by Charles V sent. That was the so-called Old Tercio of Neaple led by Bernardo Vilella de Aldana *maestro de campo*. However, after their rebellion, Ferdinand I was forced to disband the companies of this. Many of them then returned to the service of the Kingdom of Spain. Despite this, Spanish infantry was stationed in the two most important strongholds of Hungarian border defense system along the Danube, in Győr and Komárom until the second half of the 1550s.⁵⁷

The mercenaries of the Spanish infantry were recruited from among the inhabitants and impoverished noblemen/*hidalgos*. During recruitment, not only officials but also ordinary soldiers individually contracted with the crown, meaning that the Spanish infantry were professional volunteer soldiers and owed their loyalty exclusively to the crown. Their loyalty to the ruler was unquestionable. They did not serve other princes for pay, like the Swiss mercenaries or the German *Landsknechts*. Their contract regulated not only pay, service time and other conditions, but also the right to resist, the conditions and framework for rebellion in case the pay was not paid. Based on their military performance anyone of them could even become officials and chief officials.

We must not forget that some of the soldiers formed communities of eight to ten people, called *camaradas*. They marched together, camped together, and even shared expenses together. They often came from the same settlement, sometimes they were connected by family ties. In case of danger, they were willing to sacrifice themselves for the sake of the community. These *camaradas* formed the backbone of the Tercios.⁵⁸

What was the Tercio? The word itself means „[a] third” in English, i. e. the soldiers of the Catholic Monarchs of Spain were divided into three classes: pikemen, swordsmen with shields, and crossbowmen supplemented with an early firearm, the arquebus. At the end of the 15th-century these different units of the Spanish Infantry was organized by Gonzalo Fernández de Cordoba, the Great

57 Zoltán Korpás, „A „Keleti Flandria”. A spanyol öreg terciók a magyar hadszíntéren a 16. század első felében,” In Pál Fodor – István Kenyeres – Katalin Toma eds., *Mohács-tanulmányok*, vol. I. Budapest: Magyar Történelmi Társulat, HUN-REN Bölcsészettudományi Kutatóközpont Történettudományi Intézet, 2024, 169-171.

58 Korpás, „A „Keleti Flandria,” 163-164.

Captain (*El Gran Capitan*) in a Tercio. The term did not refer to a combat unit, but to an administrative unit under its own staff. It was managed by *maestro de campo*. He was a professional soldier, who was entrusted with this task by the ruler. This can be considered a very important difference. The German or Walloon military entrepreneurs who contracted with the Spanish king considered the troops they recruited as their own private property. This also may be the reason why in the 16th century, in contrast to the Spanish and Italians, these mercenaries were organized not in Tercios but in regiments. If the *maestro de campo* was not appointed to lead an existing unit, but had to recruit a new Tercio, he entered into a contract with the crown according to predetermined parameters, which regulated the method of recruitment, location, costs, military accommodation, the system of payment of wages and its supervision.⁵⁹

Each Tercio had its own command structure and each of its companies (*compañías*) had its own subcommand structures and had an autonomous corps of officials, of whom the captain, the *alférez*,⁶⁰ the sergeant and several *cabos de escuadra*⁶¹, normally commanded around 300 men or even less in combat. It is important to emphasize that, similarly to the organisation presented in the Western European mercenary units mentioned above, the *maestro de campo* was also the captain of one of the companies. In any case the number of officials in the German or Walloon regiments in Spanish service was higher than in the Tercios, so the former were more expensive to maintain.⁶²

At the first part of the 16th century each Spanish Tercio was supposed to consist of 1,400 musketeers, 1,200 pikemen with body armour (*coselete*) and 400 light pikemen (*pica seca*). In reality, however, only between 150 and 250 mercenaries served in each company. The ratio of riflemen to pikemen also often differed from the expected ratio. In the Ordinances of 1598 can be read „that each company of pikemen consisting of 250 men would have 130 pikemen, one hundred arquebusiers and twenty musketeers. The arquebusier companies were

59 Eduardo de Mesa, *The Irish in the Spanish Armies in the Seventeenth Century*, Woodbridge: The Boydell Press, 2014, 9-12.; Korpás, „A „Keleti Flandria,” 163.

60 Standard-bearer.

61 Each one of the *cabos* was at the head of a squad of twenty. men.

62 De Mesa, *The Irish in the Spanish Armies in the Seventeenth Century*, 12., Korpás, „A „Keleti Flandria,” 163.

armed only with arquebuses and muskets but the Ordinances do not specify numbers". This meant that by the end of the 16th century in Flandria the Tercios had considerable firepower, generally surpassing the firepower of the German, Walloon, French and Lorraine infantry.⁶³

I should point out that the army sent on three campaigns (1595, 1597 and 1600)⁶⁴ by Pope Clement VIII during the Long Turkish War was organized on similar principles to the Spanish one for the first time: a Tercio was formed of ten infantry companies. They were also led by a *maestro de campo*, or *maestro di campo* in Italian. Each company was headed by a captain or colonel. The use of this latter term is also interesting because today we would translate this Italian word into English as colonel.⁶⁵ However, changes soon occurred. During the second campaign, the term Tercio was replaced by regiment, while in the papal army that took part in the siege of Kanizsa in 1601, the *maestro di campos* were replaced by colonels (*colonello*).⁶⁶

What kind of tactical unit was used by Christian generals in the battle? One way to do this was through the widespread and widely used Terció formation. However, 20th-century critics of this array, theorists of the military revolution, viewed the Tercios' soldiers as a monolithic force. They have been described as being formed by a square (*cuadro*) of pikemen with musketeers and arquebusiers positioned around it (*manga*). By contrast Eduardo de Mesa noted: „The battle formations of the Tercios differed from the typical image of the square of pikemen surrounded with firearms. The commanders observed the enemy's characteristics and deployed their men in what they considered the best possible way for engaging the foe. Firearms were often deployed in front of the pikemen, rather than around them, and their square formations were expanded into rectangles as circumstances demanded. The front could be as long as required; normally it was in a linear formation for the effective use of the firearms. *Salvo* or

63 De Mesa, *The Irish in the Spanish Armies in the Seventeenth Century*, 12., Korpás, „A „Keleti Flandria,” 163.

64 Giampiero Brunelli, *La santa impresa. La crociate del Papa in Ungheria (1595–1601)*, Roma: Salerno Editrice, 2018. Tamás Kruppa, *Pápai csapatok Magyarországon (1595–1597, 1601)*, Budapest-Róma: gondolat Kiadó, 2020.

65 Brunelli, *La santa impresa*, 60.; Kruppa, *Pápai csapatok Magyarországon*, 9-12, 19, 22, 121, 165, 254-267.

66 Kruppa, *Pápai csapatok Magyarországon*, 267-270.



Janissary with rifle

https://en.wikipedia.org/wiki/Janissary#/media/File:Ralamb_Janissary_1.jpg

volleys, which were used by the Spanish from the sixteenth-century, were fired directly into the formations of the oncoming opponents. The infantry could also be arrayed in a skirmish line to disrupt the advance of the enemy; the pikemen would be chosen to face a charge of cavalry or infantry. The possibilities were almost limitless. It must also be noted that the officers always bore in mind the necessity to maintain a proper balance between pikes and firearms”.⁶⁷ Accordingly, this formation can be considered very flexible. It was equally suitable for defense and attack (such as in the Battle of Nieuwpoort in 1600). Above all, however, it gave stability to the formation. However, its application did not only take place in Western Europe, on the battlefields of the Netherlands, France or Italy, and was not limited to Spanish and Italian infantry. During the Long Turkish War, the German, Walloon, French and Lorraine regiments fighting in the Kingdom of Hungary were also arranged in a similar way on the battlefield. For example, in the Battle of Mezőkeresztes (October 22–26, 1596) and in the struggles fought for the relief of Kanizsa in 1600, the stability of the Christian army’s array thus formed was given by that Western European infantry which were divided into such units.⁶⁸

The greatest challenge for Christian generals in the 16th century was how to exploit the firepower of the increasing number of firearms. De Mesa pointed out that in 1503 Córdoba had already been using his musketeers and arquebusiers in a way that anticipated the Dutch counter-march of 1590s that Parker described as „innovation”.⁶⁹ However, it is an undeniable fact that the essence of the new fight method was put down on paper by William Louis Count of Nassau-Dillenburg in 1594 in one of the letters to his cousin, Maurice Count of Nassau, Prince of Orange. According to this, continuous and simultaneous firing of the soldiers equipped with firearms could be ensured by continuously changing positions (the first row moved behind the last to reload after the volley). As early as 1594, Maurice tried out the new fight method on the battlefield, arranging his riflemen in six rows.⁷⁰ We also know from Kelenik’s research that the riflemen

67 De Mesa, *The Irish in the Spanish Armies in the Seventeenth Century*, 10–12.

68 József Kelenik, “A mezőkeresztesi csata (1596. október 26.),” In Róbert Hermann eds. *Fegyvert s vitézt...A magyar hadtörténet nagy csatái*, Budapest: Corvina Kiadó, 2003. 120–121.

69 De Mesa, *The Irish in the Spanish Armies in the Seventeenth Century*, 12.

70 Geoffrey Parker, *The Military Revolution. Military Innovation and the Rise of the West, 1500–*

of the Christian army that set out to relief Kanizsa in 1600 had already used the counter-march with successful against the janissaries.⁷¹

Ottoman infantry on the theaters of war in the Kingdom of Hungary during the 16th century

The Ottoman Empire's land army in the 16th century consisted of three main parts, the most effective of which were the slaves of Porte or in Turkish *Kapıkulu* corps of the central standing army. Their members were selected partly through the child tax institution, *Devsirme*, and partly from among capable young prisoners of war. They received regular pay, were always ready for action, were fully armed, and lived in barracks.

The core, most populous and elite military force of the Porte was the Janissaries. They provided the Sultan's bodyguard in all aspects, so in the battles they were positioned in the center of the army, protecting the Sultan when he went on a campaign and during the fight. From 1593, according to the law, with the exception of the security reserve left at home, they had to go to war not only with the Sultan, but also with the Grand Vizier or the Serdar/*Serdâr* in full force. They were under the command of the Janissary Agha/*Ağa*, and without his permission, no one except the Sultan could interfere in the „life” of the corps.

The Janissary corps was organized into three major units. The largest group, about two-thirds, was the so-called *Cemaat* (or *Yaya*). This was divided into *Ortas* of 60-70 men, headed by *Çorbacı*s (soup maker) or *Bölükbaşı*s. The second, the so-called *Sekbans* (hund keepers), which made up about a fifth of the entire Janissary corps. Their original task was to look after the Sultan's hunting dogs, and later they formed the bodyguard of the ruler, accompanying him both on hunts and on campaigns. The third, the so-called (Agha/*Ağa*) *Bölük*, was directly under the command of the Janissary Agha/*Ağa*. The Janissary formations were supplemented by a group of recruits (*Acemi Ocağı*). In this unit, young

1800; Cambridge: Cambridge University Press, 1988, 18-19.; Kelenik, „A Hadügyi Forradalom és hatása Magyarországon a tizenöt éves háború időszakában,” 92-93.

71 Kelenik, „A Hadügyi Forradalom és hatása Magyarországon,” 93.; József Kelenik, „A kézi löfegyverek jelentősége a Hadügyi Forradalom kibontakozásában. A császári-királyi hadsereg fegyverzetének jellege Magyarországon a tizenöt éves háború éveiben,” 99.; Kelenik, „The Military Revolution in Hungary,” 130.

men served and trained for six years before being assigned to a *Orta* or *Bölük*.⁷²

During the long Turkish war, the leaders of the Ottoman Empire were faced with the fact that the firepower of the Christian troops was superior to their own. They saw the solution to the problem in increasing the number of Janissaries equipped with rifles. While 12,798 Janissaries received salaries in 1567–68, in 1609 the treasury distributed monthly salary to 37,627 people.⁷³ However, the increase in numbers did not prove to be a good solution, since the quantitative increase was not followed by a qualitative change. The unknown author of the work *The Laws of the Janissaries*, published in 1606, complained that the child tax and the admission of the children of Janissaries (*Kuloğlu*) to the corps had been abolished, and that bribed recruiters were filling the empty places with thousands of incompetents. However, these were only weak imitations of the former elite formation.⁷⁴ While Abdülkadir Efendi mentioned in connection with the preparations for the 1596 campaign that the Janissaries held shooting exercises twice a week at *At Mejdán*, ten years later the unknown author of *The Laws of the Janissaries* reported that this practice was not observed.⁷⁵

Another possible solution for the Sultan's government was to establish new

72 Tibor, Generál, *Allah serege*, Budapest: Zrínyi Katonai Kiadó, 1987, 108–148.; Pál Fodor, *A janicsárok törvényei*, Budapest, Magyar Tudományos Akadémia Orientalisztikai Munkaközösség, 1989.; József Matuz, *Az Oszmán Birodalom története*, Budapest: Akadémiai Kiadó, 1990, 81.; Mesut Uyer – Edward J. Eriksen, *A Military History of the Ottomans. From Osman to Atatürk*, Santa Barbara – Denver – Oxford: ABC-CLIO, 2009, 32–44.; Gábor Ágoston, *Európa és az Oszmán hódítás*, Budapest: hm hadtörténeti Intézet és múzeum, 2014, 23., 260–262., 310., 330.; Gábor Ágoston, “The Ottoman Empire and Europe,” In Hamish Scott ed., *The Oxford Handbook of Early Modern European History, 1350–1750*, vol.: II. Oxford: Oxford University Press, 2015. 616.; Gábor Ágoston, “Oszmán és Habsburg hadügy Szulejmán korában,” In Pál Fodor ed., *Harc Közép-Európáért. Szigetvár ostroma, Nagy Szulejmán és Zrínyi Miklós halála (1566)*, Budapest: HUN-REN Bölcsészettudományi Kutatóközpont, 2023, 342.

73 Géza Dávid – Pál Fodor, “Magyar vonatkozású török államiratok a tizenöt éves háború korából,” *Hadtörténelmi Közlemények* 30, no. 2–3 (1983), 458.; Generál, *Allah serege*, 126.; Gábor Ágoston, “Az európai hadügyi forradalom és az oszmánok,” *Történelmi Szemle* 37, no. 4. (1995), 478–479.; Ágoston, “The Ottoman Empire and Europe,” 621.; Ágoston, “Oszmán és Habsburg hadügy Szulejmán korában,” 342–344.

74 Fodor, *A janicsárok törvényei*, 27., 30.; Ágoston, “Az európai hadügyi forradalom és az oszmánok,” 479.

75 Fodor, *A janicsárok törvényei*, 107–108.; Ágoston, “Az európai hadügyi forradalom és az oszmánok,” 479.

rifled mercenary units. As a result of the economic and social changes that took place in the Ottoman Empire, thousands of peasants became vagrants during the Long Turkish War, creating a great opportunity to recruit new troops. Many of them had firearms, since in the 16th century even the non-Muslim inhabitants of the empire, the rayahs, had acquired rifles en masse. These mercenaries, called *Sekbans*⁷⁶ or *Saricas*, were recruited during the Long Turkish War mainly in Bosnia and Albania, for the duration of each campaign. After the war year, they were dismissed again, so they spent their time wandering and robbing the unarmed again.⁷⁷ We know from Ibrahim Pečevi's *Tarikh* that in 1601, a few hundred *Sekbans* armed with rifles also participated in the fighting.⁷⁸ One more interesting fact is worth mentioning regarding this type of troops. In the already mentioned letter sent to Nádasdi on June 22, 1601 by András Orosi, writing about the Ottoman main army, he mentioned that Heyducks (!) were also serving there. The captain of Vác must have been thinking of the *Sekbans*. This means that he considered the former and the Heyducks to be the same in both nationality and armament.⁷⁹

There was a third option, by which the Sultan's government could increase its infantry equipped with rifles. At the beginning of the Long Turkish War, musketeers were even requested from the Republic of Ragusa. In times of great need, it came in handy that – as I have already mentioned – in May 1600 the French, Walloon and Lorrain mercenaries rebelled in Pápa,⁸⁰ from where some of them finally managed to get through the siege ring of the Christian troops besieg-

76 These are not to be confused with the *Sekbans* who served among the Janissaries.

77 Caroline Finkel, *The Administration of Warfare. The Ottoman Military Campaigns in Hungary, 1593–1606*, Vienna: Verband der wissenschaftlichen Gesellschaften Österreichs, 1988, 41–47.; Ágoston, “Az európai hadügyi forradalom és az oszmánok,” 479–483.; Uyer – Erikson, *A Military History of the Ottomans*, 62., 91–92.; Gábor Ágoston, “Oszmán hadügyi változások a 16–18. században,” *Századok* 152, no. 5 (2018), 971.

78 Ibrahim Pecsevi tarihjából, In *Török történetírók*, vol.: III. (1566–1659), fordította Karácson Imre, sajtó alá rendezte Szekfű Gyula. Budapest: Magyar Tudományos Akadémia, 1916, 160.; Finkel, *The Administration of Warfare*, 45.

79 ÖStA HHStA StAbt Türkei I. June 22, 1601. folio: 219r; Bagi, „*Én alig voltam erősb és rettenetesb harczon és viadalon, mint ez vala*,” 82.; Bagi, “A Magyar Királyság hadügyei a 16. században,” 122.

80 Caroline Finkel, “French mercenaries in the Habsburg-Ottoman War of 1593–1606: the Desertion of the Papa Garrison to the Ottomans in 1600,” *Bulletin of the School of Oriental and African Studies* 55, no. 3. (1992), 451–471.

ing them to Székesfehérvár. They became Ottoman mercenaries and received their first significant task at the siege of Kanizsa, where about four hundred of them were entrusted with supervising the cannons. They were paid four times as much as they had previously received from the Court Chamber.⁸¹ The following year they fought there at Sárrét and under Székesfehérvár, but not only as infantry. The sources also mention that the Ottoman army that appeared against the Christian camp on October 9, 1601 was mainly equipped with long rifles and was on horseback. The document mentioned that renegade French, Walloon and Lorrain mercenaries also appeared among them. According to the testimony of the Turk captured in the clash on October 10, a hundred of them also served on horseback. Their role was therefore similar to the mounted arquebusiers serving in the Christian army. This means that Porte tried to adapt those elements of the West-European warfare at the turn of the 16th and 17th centuries that were missing from its own military organisation.⁸²

It is necessary to mention three formations that were organized to support the infantry. One was the so-called *Cebeci Ocağı* (the hearth of armorers). They also managed the arsenals and gunpowder stores, and in battle they were divided into the right and left wings of the army. During the campaign they transported „all this equipment back and forth with special wagons and, interestingly, even the Janissaries did not get their weapons and equipment until reaching the combat zone”.⁸³ Already in the first half of the 15th century, the Ottoman military leadership created another special military corps *Top Arabacıları Ocağı* (Artillery Wagoners' Corps) which based on the Western European, mostly Hussite model used war wagons in fight.⁸⁴ In addition, the *Humbaracı Ocağı* (the hearth of bombardiers) was primarily engaged in the production of grenades. However,

81 ÖStA HHStA Ungarische Akten (UA) Allgemeine Akten (AA) Fasc. 140. fol.: 65r; Finkel, “French mercenaries in the Habsburg-Ottoman War of 1593–1606,” 451–471.; Ágoston, “Az európai hadügyi forradalom és az oszmánok,” 477–478.; Péter Sahin-Tóth, “A vallon – francia katonaság sajátos szerepe a hadviselő felek közötti kapcsolatokban a tizenöt éves háború idején,” In Teréz Oborni ed., *Ad Astra. Sahin-Tóth Péter tanulmányai Études de Péter Sahin-Tóth*, Budapest: ELTE Eötvös Kiadó, 2006. 103–111.

82 ÖStA HHStA UA AA Fasc. 140. fol.: 19v.; ÖStA KA AFA 1601–13–1.

83 Generál, *Allah serege*, 156.; Matuz, *Az Oszmán Birodalom története*, 82.; Uyer – Eriksen, *A Military History of the Ottomans*, 49–50.

84 Uyer – Eriksen, *A Military History of the Ottomans*, 50–51.

this corps was organized into an independent unit only in 1731.⁸⁵

The Janissaries fought as light infantry. At the time of the formation of the corps, everyone was equipped with composite bows and swords. Although they also used short spears,



battle axes and other infantry weapons, these were only used as secondary weapons. In all likelihood, the use of firearms began to spread among them in the first half of the 15th century. At first, only a few *Ortas* were equipped with them, but as their reliability increased, the rest of the corps was also armed in this way. In addition, after the 1560s, the use of a primitive type of hand grenade (*El-kumbarası*) also spread among them.⁸⁶ The Janissary corps ergo had no infantry equipped with breast- and back-plates, helmets, shields or pavises and pikes. Accordingly, their tactics were only based on the use of firearms. Therefore, an anonymous writer of memorandum in 1595 was of the opinion that “the armour of *Doppelsöldner* must be abolished. A bullet-proof breast-plate, a gorget, and a helmet are enough, the rest only tires the person whereas they do not give real protection against shots or thrusts. Against this enemy (i.e. the Ottomans) everything must be based on fastness”.⁸⁷

85 Generál, *Allah serege*, 156-157.; Gábor Ágoston, *Guns for the Sultan: Military Power and the Weapons Industry in the Ottoman Empire*, Cambridge: Cambridge University press, 2005, 16-42; Uyer-Eriksen 2009. 51-52.; Gábor Ágoston, “Oszmán és Habsburg hadügy Szulejmán korában,” 344-345.

86 Uyer-Eriksen 2009. 41-42.

87 ÖStA KA AFA 1595-13-1; Kelenik, “A Hadügyi Forradalom és hatása Magyarországon,” 90.; Kelenik, “The Military Revolution in Hungary,” 134.

The Janissaries were positioned in the middle of the deploy in a square, which was several rows of deep formations. The combined firepower of them and artillery stationed here was intended to stop the enemy attack. However, unlike the Tercio, their formation remained static.⁸⁸ They tried to compensate for the lack of heavy infantry by digging trenches and entrenchments, and by building modified *Wagenburgs*/wagon forts by chaining the wagons together (such as in the Battle of Mohács in 1526⁸⁹). This severely restricted their movement. Also, for their support the household cavalry was positioned behind them or on the flanks.⁹⁰ However, I must note that the Ottoman leadership was also open to Western European innovations in tactics. During a military exercise held near Paks in 1605, they tried to teach their infantry how to use continuous fire, i.e. the counter-march, presumably based on the knowledge of the French, Walloon and Lorraine mercenaries who had rebelled at Pápa.⁹¹

We also find infantry in the provincial forces of the Ottoman Empire, such as in the Budin Eyalet. Among them, the so-called *Müstahfiz* (two other names were *Merd-i Kale* and *Hisar eri*), who basically used firearms and in close combat they used sabres and battle axes. Usually, their smaller units also protected objects requiring special protection, such as the bridge, the gunpowder mill, the arsenal or the fortification on Gellért Hill in Buda. They are mentioned several times, incorrectly, as the Janissaries of the castles (*Kale*). But that is true that some units of the latter were also stationed in Buda during the 16th century.⁹²

The other, less well-armed and poorly paid part of the provincial infantry was the so-called Azabs. Even before the appearance of the Janissaries, they

88 Generál, *Allah serege*, 211-212.;

89 János B. Szabó, "Az újkor hajnalán. Magyarország hadügye a Jagelló-királyok alatt (1490–1526)," In Róbert Hermann eds., *Magyarország hadtörténete. A kezdetektől 1526-ig*, vol. I. Budapest: Zrínyi Kiadó, 2017, 365.

90 Uyer – Eriksen, *A Military History of the Ottomans*, 50-51.

91 Sándor Papp, "A zsitvatoroki békéhez vezető út. Egy állítólagos Habsburg ígéret hátteréhez," In Klára Papp – Erzsébet Jeney-Tóth eds., „*Frigy és békesség legyen...*” *A bécsi és zsitvatoroki béke. A Bocskai-szabadságharc 400. évfordulója*, Debrecen: A Debreceni Tudományegyetem Történelmi Intézete – Hajdú-Bihar Megyei Önkormányzat, 2006. 269.

92 Klára Hegyi, *The Ottoman Military Organization in Hungary. Fortresses, Fortress Garrisons and Finances*, Berlin: Klaus Schwarz Verlag, 2018, 117-125., 143-153.; Balázs Sudár, "Az Oszmánok Magyarországon," In Kálmán Mészáros ed., *Magyarország hadtörténete, Az oszmán hódítás kora 1526–1718*; vol. II. Budapest: Zrínyi Kiadó, 2020, 323-327.

were the infantry complement of the Ottoman cavalry. However, by the 16th century, most of them were already considered riflemen assigned to castles, who also served in the flotilla and protected the transports arriving on the Danube.⁹³

The last, worst-paid, least-esteemed, and most-used unit of every castle guard was the *Martolos*. The soldiers at the bottom of the military hierarchy, almost entirely of South Slavic Christian origin, were previously considered cavalry, but this assumption has been overturned in recent times. Klára Hegyi now classifies them as infantry, believing that the mounted *Martolos* was only an exception, a special one. Their diverse tasks included not only the defense of the castles, but also the maintenance of order and the protection of castles surroundings. In addition, together with the *Azabs*, they were also responsible for water service and coastal protection of shipments. During the Long Turkish War and in the first half of the 17th century, we find some guards that were staffed only with *Martoloses*. However, these later proved to be only a temporary solution.⁹⁴

Summary

Based on all these, three important statements can be made. First, in the 16th century, infantry units recruited and hired under different nationality, legal status and organisation fought in the territory of the Kingdom of Hungary. Second, while in the case of the Christian armies, the foreign and Hungarian mercenary infantry complemented each other well on the battlefield, since one could ensure the stability of the military formation, while the other its mobility, this cannot be said of the Ottoman army. The Janissaries could only rely on their firepower and various field fortifications (trenches, entrenchments and wagon forts) against the enemy's attack. Thirdly, it can be observed how the warring parties mutually influence each other. It is interesting that the military leadership of both the Habsburg and the Ottoman Empires only saw the possibility of defeating the enemy in increasing firepower.

93 Uyer – Eriksen, *A Military History of the Ottomans*, 20-21., 55., 61-62.; Hegyi, *The Ottoman Military Organization in Hungary*, 134-137.

94 Uyer – Eriksen, *A Military History of the Ottomans*, 63-65.; Hegyi, *The Ottoman Military Organization in Hungary*, 137-141.



Claws and Teeth of the Dragon: Infantry Warfare in Ming China

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Like all geographically expansive empires, the Ming dynasty of China (1368-1644) faced a bewildering set of military challenges, further complicated by profound differences in the environments in which the Ming waged war and in the technologies deployed by the enemies of the state.¹ Yet, from its inception, like most of the dynasties preceding it, the Ming made a conscious effort to draw upon its overwhelming manpower advantage and focus on the infantry as the backbone of its massive military forces. Furthermore, the dynastic founder and his successors emphasized the use of new technologies, namely firearms, as the Ming created the world's first dedicated firearms training divisions and required, at least in theory, that all soldiers be trained in their use. Again, following Chinese precedents, the Ming further made use of special forces drawn from supposedly martial minority races to serve as scouts and shock troops along the frontiers, particularly in the suppression of tribal uprisings. This chapter will provide an overview of infantry warfare in Ming China by examining its military institutions and organizational principles while also highlighting its effectiveness via case studies.²

- 1 For an overview of Ming strategic challenges, see Kenneth M. Swope, "Manifesting Awe: Grand Strategy and Imperial Leadership in the Ming Dynasty," *Journal of Military History* 79.3 (July 2015), 597-634; and Kenneth M. Swope, "China, 1368-1911," 403-423, in Isabelle Duyvesteyn and Beatrice Heuser, eds., *The Cambridge History of Strategy* Volume I: *From Antiquity to the American War of Independence* (Cambridge: Cambridge University Press), 408-414.
- 2 Much of the information included herein is derived from Kenneth M. Swope, "The Three Great Campaigns of the Wanli Emperor, 1592-1600: Court, Military, and Society in Late Sixteenth-Century China," (PhD Diss., University of Michigan, 2001). The reader should consult that work for additional information about Ming military institutions, their evolution, and

Military might is not the first thing which comes to mind when one mentions the Ming dynasty. The Ming is best known for being a time of cultural and economic florescence, a golden age of Chinese literature, porcelain, and architecture. The Ming is also synonymous with despotic emperors and eunuch abuses in government. Until recent decades, if the military was discussed at all it was generally in reference to either the founding and consolidation of the empire under the first two emperors or the decline and fall of the Ming under the last two emperors.³ The early Ming is associated with the implementation of the hereditary military system modeled after the Mongol Yuan (1279-1368), while the late Ming witnessed almost total conversion to a mercenary army. This army was not well regarded by contemporaries and modern scholars have echoed this contempt. In his popular textbook, Jacques Gernet follows the observations of the famous Jesuit Matteo Ricci (1552-1610) in saying the armies “were the refuse dump of society and consisted of idlers, rascals, jailbirds, and highwaymen.”⁴ Recent scholarship has challenged such interpretations, revealing that the Ming military was a dynamic and vital branch of the government throughout its existence.⁵

Therefore, the military deserves closer scrutiny both with regards to its effects on political life and with respect to its evolution within the larger context of Ming society. Changes in the organization of the military were directly related to changes occurring elsewhere in society. The increase in the amount of money in circulation in the second half of the Ming made the conversion to a mercenary army possible.⁶ Technological advances in weaponry necessitated

connections to broader social, political, and military issues.

- 3 Notable recent exceptions include Kenneth M. Swope, *A Dragon's Head and a Serpent's Tail: Ming China and the First Great East Asian War, 1592-1598* (Norman: University of Oklahoma Press, 2009); David M. Robinson, *Bandits, Eunuchs, and the Son of Heaven: Rebellion and the Economy of Violence in Mid-Ming China* (Honolulu: University of Hawaii Press, 2001); and John W. Dardess, *More Than the Great Wall: The Northern Frontier and Ming National Security, 1368-1644* (Lanham, MD: Rowman and Littlefield, 2019).
- 4 Jacques Gernet, *A History of Chinese Civilization*, trans. by J.R. Foster (Cambridge: Cambridge University Press, 1982), 431.
- 5 See Kenneth M. Swope, *The Military Collapse of China's Ming Dynasty, 1618-1644* (London: Routledge, 2014).
- 6 Yu Zhijia finds similar trends in the Song dynasty, noting that the Song, like the Ming, was a time when civil officials subordinated their military counterparts. This, coupled with economic expansion, created greater opportunities for commoners and led to the reliance upon a

the creation of new training divisions and units in armies. Some commanders became experts in the use of firearms or other specialized weapons. These technologies had to be adapted to the changing needs of the military itself. Cannon needed to be fitted on ships and installed on the Great Wall to combat pirates and nomadic raiders. Small firearms needed to be manufactured for use in the jungles of southwest China where Ming settlers were encroaching upon territory that had theretofore been inhabited solely by aboriginal peoples. That the Ming did all these things clearly shows that Ming military planners and officials were not content to rest on their hands but were willing to grapple with and adapt to the changing circumstances with which they were confronted. In the remainder of this chapter I will look at the evolution of the Ming military system, highlighting the infantry, which was by far the largest single component of the vast military apparatus.

The Ming, like all Chinese dynasties, was founded through military power. Zhu Yuanzhang (1328-1398), also known as the Ming Emperor Hongwu (r. 1368-1398), was the most gifted of a number of dynastic contenders for power at the end of the Yuan (Mongol, 1279-1368) dynasty.⁷ Because he had grown up under the Yuan and was familiar with its principles of military organization, the Ming military system was very similar to that of the Yuan. Guards and battalions (*wei* and *suo*) were established within the empire proper and regional military commissions and aboriginal chieftainships (*du si* and *tu si*) were established along the frontiers and in especially isolated regions.⁸ Yu Zhijia, an authority on the hereditary military system of the Ming, cautions that past writers on the Ming military have been misled by the *Ming shi*, which tries to obscure similarities with the Yuan by evoking comparisons with the garrison militia (*fu bing*) system of the Tang.⁹ Recent scholarship has further highlighted cultural,

largely mercenary army. See Yu Zhijia, *Mingdai junhu shixi zhidu*, (Taipei: Taiwan xuesheng shuju, 1987), II.

7 The rise of Zhu Yuanzhang and the founding of the Ming is covered in a number of sources in English. See the chapters by Frederick Mote and Edward Dreyer in Fredrick W. Mote, ed., *Cambridge History of China, Volume 7: The Ming Dynasty, 1368-1644* (Cambridge: Cambridge University Press, 1988), 11-106. Hereafter *CHC* 7.

8 Zhang Tingyu, et al, comps. *Mingshi* 12 vols. (Taipei: Dingwen shuju, 1994), 2175. Hereafter *MS*.

9 See *MS*, 2175 and Yu Zhijia, *Mingdai junhu* (Taipei: Taiwan xuesheng shuju, 1987), II.

military and institutional parallels between the Yuan and the Ming, though in this context it should be noted that the Ming military was far more infantry than cavalry focused and many of its cavalry forces were in fact staffed by Central Asian nomads, who were deemed to naturally possess the skills needed for such work.¹⁰

Ming society was initially divided into hereditary occupational classes, one of which was the military. Those put into military households came from three categories: 1) those on active military service; 2) those who had pledged their allegiance to a local warlord who had been conquered or had joined the Ming cause; and 3) those who had simply been impressed or assigned into service.¹¹ This recruitment process continued through Zhu's struggle for power and though all these troops were known simply as followers (*cong jun*), their precise origins, organization, and manner of recruitment remain problematic and are debated by scholars.¹² Military households were expected to offer one able bodied man for service per generation to the regular army, along with their own supplies and equipment. The army was supposed to be self-sufficient, farming in specially allocated fields when not training or fighting. While military service was hereditary, executive officer posts at the provincial and national levels were not. An officer might rise to high rank through his service, but his son would inherit his original post, which could be no higher than guard level. There were also military examinations, which, though supposed to start at the beginning of the Ming, were not implemented until 1464. These examinations emphasized both physical skills like archery from both standing positions and horseback, and book learning, to include knowledge gleaned from the military classics.¹³

Sons received their father's rank and pay at age twenty. If they succeeded to their post earlier, they received half pay. Soldiers typically retired between

10 See David M. Robinson, *In the Shadow of the Mongol Empire: Ming China and Eurasia* (Cambridge: Cambridge University Press, 2019).

11 See *MS*, 2193 and Yu Zhijia, *Mingdai junhu*, 2.

12 Yu Zhijia, *Mingdai junhu*, 4-5.

13 *MS*, 1708-1709. The examinations were supposedly not very successful, recruiting only about fifty graduates every three years, though recent scholarship suggests that the exams evolved throughout the course of the dynasty. See Joseph Hanauer, "A Surver of the Ming Martial Schools," unpublished conference paper presented at the Annual Meeting of the Chinese Military History Society, March 2025.

the ages of fifty and sixty, going on half pay at that time if they had no heirs but receiving full pay if they had an heir to succeed them. Circulating officials generally held the highest posts though these officials were often drawn from the ranks of hereditary officers. Promotion for officers was based on merit for the most part. Generals were rewarded when they succeeded and punished when they failed, losing pay or even status. In distributing rewards and determining the danger of assignments, the north was ranked first, followed by the northeast border, the western and southwestern frontiers, and finally the suppression of internal banditry. Rewards were adjusted according to whether men, women or children were killed, and whether combat was one on one, or in groups and the like.¹⁴ Rewards included money, increased rations and increases in salary. A major problem with the Ming system was that rewards were sometimes determined by the number of enemy heads taken, which could lead to atrocities against civilians and non-combatants.¹⁵ The elite were selected to participate in contests at the capital and those who did poorly could be docked pay or even sent back into the ranks.¹⁶ Because of the rather unstable situation of a military officer's rank, some officials chose to have their sons enter the civil service where things could perhaps be more stable if one was able to get in. Still, other families flourished in military roles and many prominent generals were from families with distinguished records of military service. Together these families constituted a network of military elites, though they were as faction-prone as their civil counterparts. Furthermore, as recent scholarship has noted, military families often wielded considerable local influence.¹⁷

As can be guessed from these statements, the Ming military was massive in terms of the number of men under arms at any given time, though estimates of total Ming military strength vary widely. In 1393 there were 329 guards and 65 battalions in the empire. This would give a total of 1,915, 200 troops in the regular armed forces. Yongle (r. 1403-24) added twelve more guards, meaning an

14 MS, 2261-2262.

15 MS, 2263.

16 See MS, 2258-2260, for training regulations and expectations of officers.

17 See Michael Szonyi, *The Art of Being Governed: Everyday Politics in Late Imperial China* (Princeton: Princeton University Press, 2019).

additional 67,200 troops.¹⁸ This would bring the total number of troops to just under two million, which is the figure accepted by most scholars for the early Ming period.¹⁹ The Chinese scholar Wang Yuquan notes that according to the *Veritable Records*, the total strength of the Ming military in 1392 was 1,198,442 plus 16,489 military officials.²⁰ Wang thinks that this estimate is too low as estimates from the Hongxi reign (1425) put strength at 2.7 million and the *Da Ming huidian*, gives a figure of 1,586,611 troops for the Hongzhi reign (1488-1505). To put this number into perspective, the population of China in the early Ming is estimated at around 85 million, meaning perhaps 2.5-3.5% of the populace were soldiers.²¹ The number of men in the military was to fluctuate wildly over the course of the Ming reaching perhaps 4 million by the late sixteenth century, though the number of men on the military registers typically far exceeded the actual number of men in service.²² In addition to these regular forces, there were also people's militia (*min zhuang*) and a variety of other irregular forces which will be discussed in more detail below.

Though initially the numbers were more flexible, after the empire was pacified there were 5600 men in a guard and 1120 men in a battalion, which was further subdivided into ten units of 112 men, often referred to as companies. Each company was led by two platoon commanders who in turn had jurisdiction over five squad commanders who led ten men each. Each prefecture had three guards, each guard command had five battalions under it and every battalion command consisted of two full battalions and ten companies.²³ The guards and

18 *MS*, 2196.

19 See, for example, Xu Xianyao, "Mingdai de goujun," *Ming shi yanjiu zhuankan* 6 (June, 1983), 133.

20 Wang Yuquan, *Mingdai de juntian* (Beijing: Zhonghua shuju, 1965), 50. Yet the *Ming shi* also states that after the complete pacification of the empire there were 493 guards, which would total 2,760,800 men. See *MS*, 2204. Writing at the end of the Ming, Huang Zongxi (1610-1695) comes up with a figure of 3,138,300 troops. See William Theodore DeBary, trans. and ed., *Waiting for the Dawn: A Plan for the Prince*, Huang Tsung-hsi's *Ming-i tai fang lu* (New York: Columbia University Press, 1993), 139.

21 This estimate of the Ming population takes into account under-registration and is taken from Denis C. Twitchett and Frederick W. Mote, eds., *The Cambridge History of China: Volume 8, The Ming Dynasty, Part Two, 1368-1644* (Cambridge: Cambridge University Press, 1998), 437. Hereafter, *CHC* 8.

22 *MS*, 2204.

23 *MS*, 2194. The locations of the guards and battalions are listed in *MS*, 2222-2228.

battalions located in the interior of the empire had three basic functions: 1) to defend imperial lands; 2) to act as support forces in times of war; and 3) to rotate to the capital for training and to border garrisons to assist in basic defense and patrols in times of peace.²⁴

This system of rotation to the capital was especially important after 1424 when the Three Great Training Divisions (*san da ying*) were established at the new capital in Beijing. Rotation was twice a year, in spring and in the fall and in theory involved some 160,000 men per year.²⁵ At these times the old and weak were dismissed and the government repossessed their mounts. Troops were also rotated to the frontiers and those who tried to desert at these times were demoted three grades if they were military officials and sentenced to permanent service in border garrisons if they were ordinary soldiers.²⁶ Significantly, the Ming capital training divisions were the first in the world to have dedicated firearms training as part of their core curriculum and highlight the primacy put on infantry warfare despite the significance of the ongoing Mongol threat.

Another trend which took place in the fifteenth century was the eclipse of the power of military officials by civilian officers in the Ministry of War. The Ministry of War oversaw the Five Chief Military Commissions even though they were technically equal in the Ming administrative hierarchy. The problematic aspect of the system was that the civilian-led Ministry of War had authority over whether or not to send troops out, but lacked authority in the field. The reverse was also the case. Military officials had full authority in the field but they could not make the decision to go to war.²⁷ Officials assigned to posts in the ministry often lacked military experience or any grasp of proper strategy and tactics. This often resulted in serious problems for commanders in the field which might otherwise have been averted, as can be seen by a quick overview of the four top bureaus in the Ministry of War and their respective functions. These were the Bureau of Provisions, the Bureau of Transport and Communications, the Bureau of Operations, and the Bureau of Military Appointments. The Bureau

24 He Zhiqing and Wang Xiaowei, *Zhongguo bing zhi shi* (Taipei: Zhongguo wenhua shi cong-shu, 1997), 239.

25 MS, 2229; He and Wang, *Zhongguo bing zhi shi*, 240.

26 MS, 2229.

27 Wang Li, "Mingdai yingbing zhi chu tan," *Beijing shifan daxue xuebao*, 1991.2, 5.

of Military Appointments selected officers, distributed awards, approved promotions, and chose substitutes for deceased or retired officers. The Bureau of Operations was responsible for transportation of men and materials, providing route maps, military organization and systematization in the field, the construction of walls and moats, the maintenance of frontier garrisons, training, and pacification campaigns. The Bureau of Transport and Communications was in charge of ceremonial insignia, regalia, postal communications, captured books and records and the quartering of livestock. The Bureau of Provisions took care of armaments, military studies, tallies, registers, fuel and servants for the army.²⁸

But civil involvement in military matters was by no means the greatest obstacle the Ming military faced. The bane of the Ming military was desertion. This was a direct outgrowth of the way in which the Ming military was created. While many men may have joined the military out of desperation or in hope of attaining fame and fortune, most had no desire to shackle themselves into service for life. Once peace had been restored many of these people yearned to return to their homes and their previous occupations. Thus, as early as 1370, 47,900 people had already deserted from those registered as military families.²⁹ Only those who had willingly joined Zhu Yuanzhang's armies remained loyal to any great extent. The others deserted for a number of reasons, depending upon where they were stationed. Soldiers on the coast experienced hardships from being assigned petty miscellaneous tasks, being forced to supply horses, and as a result of receiving insufficient rations. Jiangnan soldiers' hardships stemmed from onerous grain transport duties. Jiangbei soldiers' woes were tied to excessive drilling in the capital. Those in Guangxi, Guizhou and Yunnan suffered from epidemics and reduced monthly rations. Those in Nanzhili, Beizhili, Henan, and Shandong had to perform construction duties for officials and were exploited by superiors. Those in the capital armies had to supply tribute horses, and suffered from pay cuts and the withholding of military supplies.³⁰ On the other hand, it needs to be remembered that desertion was not a problem unique to the Ming. One of the primary factors limiting the ability of early modern European states to wage war was the problem of desertion from the ranks. This

28 The previous discussion is based on He and Wang, *Zhongguo bing zhi shi*, 230-31.

29 *MS*, 2255.

30 Xu Xianyao, "Mingdai de goujun," 37-38.

eventually led to the rise of professional mercenary armies, a situation which has its parallels in the Ming, albeit under different circumstances.

Ming officials, not unlike their counterparts elsewhere then and now, were very concerned with military expenditures. Zhu Yuanzhang operated under the principle that the military was the trunk of the state and the state should possess a strong, adequately provisioned military which did not impose burdens upon the populace. Zhu originally envisioned his army as self-sufficient. Soldiers were required to supply their own mounts, equipment, and transportation to their posting. They were also supposed to grow their own food by cultivating lands specially set aside by the government for military use. These were known as military farms (*jun tun*) or state farms (*tun tian*). These fields were established in recently conquered military strongpoints, areas largely inhabited by minority peoples, along major transportation nodes, and along the frontiers.³¹ The military farming system had a long tradition in China, dating as far back as the Han (202 BC-220 AD) dynasty, though the specifics varied greatly over time.³² Under the Ming, each company was to have its own farm lands at the allocation of fifty *mu* per soldier, and soldiers were expected to spend 30% of their time fighting and training and the rest of their time farming. This system did not work well in areas unsuited to agriculture, like the northwest frontier, and additional supplies had to be transported to these regions. To avoid running up costs the government adopted the policy of allowing merchants to sell salt in exchange for transporting grain to the frontier. This practice, called *kai zhong*, was based upon a plan first proposed in the Song dynasty.³³

The military colony system also suffered from irregularities inherent in the original system which were not maintained over time. For example, early in the Ming regular pay and supplies were often supplemented by imperial awards which allowed soldiers to support themselves. This was not a reliable source of income at any rate, and even though later emperors also bestowed such awards, they were often insufficient or never even made it into the hands of ordinary

31 Wang Yuquan, *Mingdai de juntian*, 38.

32 The military colony system of the Han dynasty is treated at length by Chun-shu Chang in "The Han Colonists and their Settlements on the Chü-yen Frontier," *Tsing Hua Journal of Chinese Studies* 5.2 (Dec., 1966), 154-266.

33 *CHC* 8, 71. Also see Wang Yuquan, *Mingdai de juntian*, 290-313.

soldiers who needed it the most, being skimmed by officers along the way. In addition to this, over periods of prolonged peace, these men became “civilianized” as did their lands, often being purchased by large private landowners.³⁴ Thus the total amount of land under military cultivation generally diminished over the course of the Ming, though figures vary widely. There was an attempt under Wanli to revive the military colony system to some extent, but it was not overly successful.³⁵ The Ming state was not entirely opposed to the civilianization of formerly military lands, as it was able to tax the new landowners and the funds thereby obtained could be used to pay mercenaries. Since so many men absconded from military service and its attendant tax burdens this offered the government the chance to recoup its losses and presumably promised a more regular source of income.

Because of the many problems enumerated above, the Ming state was forced to find another way to defend itself and maintain order within and without the empire. The Ming did this by hiring mercenary forces. Scholars are not in agreement as to exactly when the Ming began relying more on mercenaries than on hereditary troops, but the transformation took place between the mid-fifteenth and mid-sixteenth centuries. While their critics decried them as disloyal and unreliable, the Ming state probably would not have withstood the military challenges of the sixteenth century nor succeeded in the Three Campaigns of the Wanli Emperor (1592-1600) without mercenary troops. Private mercenary forces were integral to Qi Jiguang’s (1528-1588) success in finally stopping the Japanese pirate (*wokou*) raids which plagued China’s southeast coast in the mid-sixteenth century. By the end of the Ming, close to half the troops in Liaodong, perhaps 100,000 soldiers, were mercenaries.³⁶ This transition to a mercenary army paralleled developments in Western Europe and was made possible by the monetization of the Ming economy.³⁷

Yongle was perhaps the greatest of all the Ming emperors and a brilliant or-

34 Wang Yuquan, *Mingdai de juntian*, 329-42.

35 See Wang Yuquan, *Mingdai de juntian*, 98-104 and 213-16.

36 Wang Li, “Mingdai yingbing,” 91.

37 For a discussion of the expenses associated with the conversion to a mercenary army, see Swope, “Three Great Campaigns,” 53-56.

ganizer and administrator.³⁸ He personally took charge of defending the frontier and created the Three Great Training Divisions from the capital garrison. These were the Division of the Five Armies (*wu jun ying*), the Division of the Three Thousand (*san qian ying*), and the Firearms Division (*shenji ying*) and were essentially infantry, cavalry and artillery divisions. The Division of the Five Armies drilled new recruits and took over the organization and training of combat troops. The firearms division was established in 1407 and was responsible for the manufacture and training of troops in the use of firearms of all sorts. The Ming had allegedly captured firearms from the Vietnamese during Yongle's failed attempt at conquest. One Le Tru'ng (1374-1446) was brought back from Vietnam and charged with manufacturing superior weapons and explosives.³⁹ Thus it is said that the Ming artillery training division was based around Vietnamese firearm specialists who instructed soldiers supervised by eunuchs.⁴⁰

Yongle also created an imperial escort from the crack troops of his five armies and embroidered uniform guards.⁴¹ Guard units specializing in raising and training horses and staffed by Mongols were established as well. Therefore Yongle was responsible for substantially changing the organization of the armies stationed at the capital and these changes were directly tied to the move

38 See his biography in L. Carrington Goodrich and Chaoying Fang, eds., *Dictionary of Ming Biography* 2 vols. (New York: Columbia University Press, 1976), 355-65. Hereafter *DMB*. Also see *MS*, 69-106; and Wang Tianyou and Xu Daling, eds., *Mingchao shiliu di* (Beijing: Zijincheng chubanshe, 1991), 57-95; and Henry Shih-shan Tsai, *Perpetual Happiness: The Ming Emperor Yongle* (Seattle: University of Washington Press, 2002).

39 *MS*, 2264. Le Tru'ng was the eldest son of the Vietnamese usurper Le Qui-ly (ca. 1335-ca. 1407). For Le Qui-ly's biography, see *DMB*, 797-801. On the Ming involvement in the Vietnamese civil war and the subsequent Ming occupation, see John K. Whitmore, *Vietnam, Ho Qu'y Ly and the Ming (1371-1421)* (New Haven: Yale University Press, 1985), Zheng Yongchang, *Zheng zhan yu qi shou: Ming dai Zhong-Yue guanxi yanjiu* (Tainan: Chengda chubanzu, 1997), 25-112. Concerning the Ming use of firearms in this war and their implications for subsequent Vietnamese history, see Kenneth M. Swope, "Gunsmoke: The Ming Invasion of Dai Viet and the Role of Firearms in Forging the Southern Frontier," in John K. Whitmore and James Anderson, eds., *China's Encounters in the South and Southwest: Reforging the Fiery Frontier over Two Millennia*, (Leiden: Brill, 2015), 156-68.

40 See *CHC* 7, 248.

41 The dreaded Embroidered Uniform Guards (*jinyi wei*) were the emperor's bodyguards. First established by Hongwu in 1382, the unit also functioned as a de facto "goon squad" for Ming emperors and frequently worked closely with eunuch agencies to counter perceived threats to the monarch.

of the capital to Beijing. In the early Ming the number of troops stationed in and around the capital approached one million and they were relied upon for attacking enemies, maintaining border defenses and quelling internal threats. In the second year of Xuande's reign, 1427, with the addition of the rotational training system, the capital garrisons' system reached its maturity.⁴² As noted above, *wei suo* troops were expected to rotate in and train with the capital garrisons. But after the Chenghua reign (1465-1487), attention to training procedures declined, military equipment was not standardized, military discipline was neglected, eunuch officials were placed in charge of troops, and a number of other lesser problems, many discussed above, arose. By the end of the Ming the capital garrison troops numbered only 110,000, and though they were called the most crack troops in the empire, they were the first to scatter upon hearing Li Zicheng's rebels were entering the capital.⁴³

Rather than dwelling upon the decline of the capital garrisons, it is important to look at how they functioned within the context of the Ming and its strategic needs. The garrisons remained the focus of much government attention despite their relative decline over time, and they never ceased to have some importance. On the eve of the Japanese invasion of Korea, Chen Lin (d. 1607), a noted firearms expert, was posted in the firearms training division to drill new recruits.⁴⁴ He was, incidentally, a local military officer who rose to high station as a result of his continued military exploits. Chen's career is an example of the kind of flexibility and opportunity for advancement that was built into the Ming military system. But it is also indicative of the shortcomings of the system as the Ming had to bring men in from the provinces to drill what should have been the empire's elite units serving under its finest commanders.

As discussed above, the firearms division was established during the Ming occupation of Vietnam, allegedly as a result of the Ming capture of Vietnamese firearms.⁴⁵ It seems most likely that the firearms division was established during the occupation of Vietnam, but not as a direct result of capturing Vietnamese experts, even though such men may well have been employed by the

42 On the rotational training system, see *MS*, 2229-2232.

43 Luo, 3.

44 See his biographies in *DMB*, 167-74 and *MS*, 6404-6408.

45 *MS*, 2177. Also see *CHC* 7, 248.

Ming. Naturally, troops stationed in the capital garrisons had the greatest access to and training in firearms. Firearms were used by foot soldiers and mounted on carts and watch towers and were a key component of Ming military operations. They were also used on ships, proving especially effective in combatting the Japanese during their invasion of Korea in the 1590s. The Ming understood the value of superior firepower and tried to make use of this advantage whenever possible. This was evident in their campaigns against all foes including under-equipped southwestern minorities, mobile steppe cavalry, and the highly sophisticated Japanese armies operating in Korea in the 1590s. Indeed, contrary to the conclusions of Kenneth Chase in his work on the adoption of firearms around the globe, the Ming had no qualms about deploying firearms against mobile cavalry forces; they simply adjusted their tactics to incorporate battle wagons into cavalry formations as pioneered by Qi Jiguang.⁴⁶

The events of the mid sixteenth century, notably increasingly devastating Mongol raids on the capital region that are beyond the scope of the present essay, confirm that it was indeed the low point of Ming military power.⁴⁷ Indeed, one can scarcely speak of Ming military affairs without mentioning the Great Wall and its implications for Ming military policy and strategy. Yet, as Arthur Waldron has pointed out, Ming officials did not typically refer to the Great Wall when discussing defenses along the Northern frontiers. Rather they referred to the Nine Border Garrisons (*jiu bian zhen*).⁴⁸ While this appellation suggests a fixed system of defenses, such was not the case. The *Ming shi* states that the garrisons were established at Liaodong, Xuanfu, Datong, Yansui, Ningxia, Gansu, Jizhou, Taiyuan (Piantou), and Guyuan.⁴⁹ But the number and location of the

46 See Kenneth Chase, *Firearms: A Global History to 1700* (Cambridge: Cambridge University Press, 2003). For counters to Chase, see Tonio Andrade, *The Gunpowder Age: China, Military Innovation and the Rise of the West in World History* (Princeton: Princeton University Press, 2015). On Qi Jiguang's tactics see Qi Jiguang *Lianbing shiji* (Zhengzhou: Henan jiaoyu chubanshe, 1994).

47 On the Mongol threat, which was strongly connected to the rebuilding of the Great Wall during the mid-Ming, see Arthur Waldron, *The Great Wall of China: From History to Myth* (Cambridge: Cambridge University Press, 1992). On political and institutional responses to the Mongol threat, see Dardess, *More than the Great Wall*, and Swope, "Three Great Campaigns," 60-65.

48 Waldron, *The Great Wall of China*, 140-41.

49 *MS*, 2235.

fortresses changed over time and was dependent to a large degree on whatever policy the government was pursuing at the time. The Ming started with a policy of aggressive defense, moved towards a more offensive policy with regard to the Mongols in the early fifteenth century, and then towards a more defensive stance after the middle of the fifteenth century, occasionally interrupted by spurts of offensive campaigning.⁵⁰

As the Ming were scrambling to repair their defenses along the northern frontier they found themselves struck by another menace in the southeast, the so-called Japanese pirates. While it has been proven that this is a misnomer, they were a thorn in the Ming's side for some two decades.⁵¹ The pirate threat was eventually eradicated through the efforts of Qi Jiguang, who achieved success by picking and training his own mercenary troops.⁵² Qi was well aware of the defects in the military system of his day and he saw a solution not in the continued use of hereditary soldiers, but rather in improving the training and pay of a privately recruited mercenary army. Qi went to great lengths to train his men in units, divisions, and formations and split his men up according to their skills and weaponry with the aim of creating a military body where each unit had a specific job designed to complement the rest.

Perhaps the best example of this was the famous "mandarin duck formation" (*yuanyang zhen*) pioneered by Qi to combat the pirates. It was based on the squad level, with a squad being comprised of a dozen soldiers. Two soldiers in the front carried shields, one armed with a sword, the other a spear. They were followed by two soldiers carrying long bamboo shafts or spears, sometimes cut from still living trees with branches attached. Four lancers followed. Behind

50 Ming defense policies are discussed in detail in Waldron, 91-164.

51 Many of the "Japanese pirates" were in fact Chinese, or sponsored by Chinese living along the coast. There are dozens of studies of the *wokou*. The most thorough study in English is Kwan-wai So, *Japanese Piracy in Ming China During the Sixteenth Century* (Lansing: Michigan State University Press, 1975). For a straightforward narrative account see Zheng Liang-sheng, *Ming dai Zhong-Ri guanxi yanjiu* (Taipei: Wenshizhe chubanshe, 1985), 273-521.

52 Qi's training methods are outlined in his famous manual *Jixiao xinshu*. See Qi Jiguang, *Jixiao xinshu*, (Taipei: Wuzhou chubanshe, 2000). For an overview of Qi's campaigns against the *wokou*, see Fan Zhongyi and Tong Xigang, *Mingdai wokou shilue* (Beijing: Zhonghua shuju, 2004). For a collection of essay appraising Qi's significance for Chinese history, see Y.H. Teddy Sim ed., *The Maritime Defence of China: General Qi Jiguang and Beyond* (Singapore: Springer, 2017).

them were a pair of rearguards who might be equipped with polearms, primitive firearms of a combination of the two. An officer and a porter/cook completed the squad. The central idea was for the soldiers to work in tandem to neutralize the mobility and reach of well-trained Japanese samurai, who could cover up to eighteen feet of space with their deadly katana.⁵³ Only by working together could these Chinese recruits counter their more skilled and professional opponents, though it appears that as Qi's troops gained experience and disseminated their training methods, their efficacy and professional reputation increased. Thus, Qi was able to adapt his tactics to warfare on the steppe, though that is beyond the scope of the present essay.

Qi took the training of courage in battle to be the root of his teachings and added the standard Confucian virtues of loyalty and righteousness. It was more important to train generals than men for a capable leader could train men but not the other way around.⁵⁴ Moreover, virtue was regarded as superior to military talent in a general and bravery was superior to skill. Training the heart was better than training in morale because morale comes from the outside but the heart is the root of it all. The success of Qi's methods demonstrated the utility of standardized continuous training with one commander. The efforts of Qi, along with those of other prominent martial families, did much to reverse the strategic balance of power along the frontiers over the last three decades of the sixteenth century.

Advances in military technology were also an important dimension of the Ming military experience largely ignored by Western scholars until recently. The Ming used cannons in their war against the Yuan and continued to refine the art of their manufacture and deployment. The largest cannon were placed on carts. Smaller cannon used frames, posts, or were hand held. The largest were used for defense while smaller models were preferred for offensive engagements because they were easier to transport. Cannons were also mounted on carts, boats, towers and fortress walls. Yongle wanted to mount cannons on the walls of all the important frontier cities but the program was costly, people were

53 These formations are described and illustrated in Qi's training manuals, cited above. For a dated, but still useful, treatment in English, see Ray Huang, *1587: A Year of No Significance: The Ming Dynasty in Decline* (New Haven: Yale University Press, 1981), 159-174.

54 Fan Zhongyi, "Mingdai junshi sixiang jianlun," *Ming-Qing shi* 24.1 (1997), 41-42.

not skilled in their use and the Ming government still treated the technology as a state secret.⁵⁵ This misgiving was apparently overcome later, as in 1596, a Western observer, Jan van Linschoten, observed, “All the townes in that countrie are walled about with stone walles and have ditches of water round about them for their securitie; they use no fortresse nor castles but only upon every gate of the towne they have strong towers, wherein they place their ordnance for the defence of ye towne. They use all kinds of armes as calivers, etc.”⁵⁶ And certainly, by the waning decades of the Ming, owing in part to the breakdown in central authority, the entire empire was heavily militarized with firearms of varying calibers being found even in distant frontier regions, which posed considerable difficulties for the Manchus once they commenced their efforts to bring the entire empire under their control.⁵⁷

The Ming also made significant technological progress in terms of hand held weapons, war boats, and military carts. They even used rudimentary flame throwers, land mines and hand grenades. This preference for using superior weaponry, particularly firearms, was the most important military development in the Ming.⁵⁸ As seen earlier, the Ming were also not adverse to adopting foreign technology if it might prove useful. The Portuguese *folangji* was introduced in 1529 and remained one of the favored weapons of Ming commanders. This weapon is described in the *Ming shi* as being five to six feet in length and weighing anywhere from 150-1000 catties depending upon the size. The Ming also acquired some sort of hand gun which had a range of around 3600 yards, and were said to be especially useful in naval engagements.⁵⁹ Later in Jiajing’s reign, the Ministry of Works was ordered to proceed apace with developing all manner of new weapons technology. The Portuguese are also traditionally given credit for introducing firearms to Japan though Japanese sources from the

55 *MS*, 2264.

56 Cited in Joseph Needham, et al., *Science and Civilisation in China Volume 5, Part 7: Chemistry and Chemical Technology: Military Technology: The Gunpowder Epic* (Cambridge: Cambridge University Press, 1986), 390.

57 These processes are described in Swope, *Military Collapse*, and in Kenneth M. Swope, *On the Trail of the Yellow Tiger: War, Trauma, and Social Dislocation in Southwest China during the Ming-Qing Transition* (Lincoln: University of Nebraska Press, 2018).

58 Fan Zhongyi, “Mingdai junshi sixiang jianlun,” 38.

59 *MS*, 2264.

early seventeenth century by famous gunsmiths state that they learned the art of gunnery from China, not Portugal.⁶⁰ It is also evident that both the Chinese and Japanese forces fighting along the southeast coast of China were using various types of firearms acquired from a variety of sources and there appears to have been considerable cross-fertilization in terms of technological exchange.⁶¹

After Jiajing's directive was issued, the floodgates were opened for the importation of foreign military technology. In Wanli's reign other foreign ships arrived, bearing what the Chinese called "The Red Barbarian Cannon" (*hong yi pao*), a mighty weapon twenty feet in length and weighing more than 3000 catties, capable of reducing city walls and causing the earth to shake for ten *li*.⁶² Jesuit visitors capitalized on the Ming desire for superior technology in the seventeenth century as they gained access to elite circles by virtue of the Ming desire for cannons to fight the Manchus. The Manchus, in turn, would quickly move to acquire their own firearms and firearms experts, recruiting Chinese officers, kidnapping Koreans, attempting to lure Jesuits and other Europeans into their service and establishing their own firearms corps in order to equalize the playing field in their struggle with the Ming.⁶³ One scholar has recently suggested that these efforts stimulated an "infantry revolution" in the early Qing that aided the Manchu conquest of China.⁶⁴ Another argues that the creation of the Hanjun (Chinese) Banners was essential to the formation of a Manchu-Mongol-Han ethnic trinity that underpinned the creation and military consolidation of the Qing empire.⁶⁵ While the term "revolution" is always problematic, the evidence

60 See Needham, et al. *Science and Civilisation* 5.7, 390-91.

61 See Sun Laichen, "The Military Implications of Zhu Wan's Coastal Campaigns in Southeastern China: Focusing on the Matchlock Gun (1548-66)," in Kenneth M. Swope and Tonio Andrade, eds., *Early Modern East Asia: War, Commerce, and Cultural Exchange* (London: Routledge, 2018), 119-150.

62 *MS*, 2265. A *li* is one third of a mile.

63 On these developments, see Zhang Jian "Baqi Hanjun huoqiying zhidu kao," *Qingshi luncong* 2020.2 (2020), 187-200, and Hyeok Hweon Kang, "Big Heads and Buddhist Demons: The Korean Musketry Revolution and the Northern Expeditions of 1654 and 1658," *Journal of Chinese Military History* 2.2 (2014), 127-189.

64 See Zhang Jian, *Qing ruguan qian bubing yanjiu* (Beijing: Zhongguo shehui kexue chubanshe, 2023).

65 Yan Hon Michael Chung, "Ethnicizing Artillery Technology: The Formation of the Hanjun Eight Banners," (Ph.D. Diss., Emory University, 2025).

suggests that what the Qing did do most effectively was wedding their competencies in cavalry warfare to Chinese infantry, artillery, and logistics proficiencies to create a military that was the most successful in China's long history in asserting political and military control over both China proper and the steppe.

Returning to the Ming, throughout their history they quickly adapted new gunpowder technologies to their modes of fighting, mounting cannons on their boats and devising new kinds of war carts for use with cannon. Small boats, ideal for pursuing pirates, were equipped with small guns. Defensive formations were created using cannon and war carts were assigned to military units. Qi Jiguang created an integrated division made up of 156 heavy carts, 100 light carts, 4000 foot soldiers and 3000 cavalry. Such units were responsible for patrolling 3000 *li* of territory.⁶⁶ Military carts and devices were valued by foes of the Ming who often went to great lengths to capture such items for their own use. They were particularly effective in sieges, a fact also realized by the Qing in their formative battles against the Ming in Manchuria.⁶⁷ The Ming also experimented with developing new kinds of bows, arrows, crossbows, spears and armor.⁶⁸ As might be expected, weapons were developed to suit different foes and environments.

In addition to capital garrison forces, *wei suo* regulars, and mercenaries, there were a number of irregular, quasi-official forces in the localities, most of which were infantry of various types since cavalry tended to come from northern China or were recruited from amongst the steppe peoples. The government actually encouraged and sponsored such groups as an adjunct to regular forces. Early in the Ming, Zhu Yuanzhang himself called for local military heroes to train and lead people in the military arts. In the interior these groups included a variety of people's forces (*min bing*), local forces (*xiang bing*), and people's stalwarts (*min zhuang*), and in more isolated regions, local defense was usually performed by aboriginal troops (*tu bing*).⁶⁹ Broadly stated there were two types of local troops: those who were listed in the military registers and those who were not

66 *MS*, 2268.

67 Yan Hon Michael Chung, "Ethnicizing Artillery," 133-191.

68 See *MS*, 2265-2267, for a brief discussion of Ming weaponry.

69 On different types of local militia, see Chen Baoliang, "Mingdai de min bing yu xiang bing," *Zhongguo shi yanjiu* 1994.1 (1994), 82.

listed in them. Registered troops trained in times of peace and disbanded after war. Unregistered local forces included all manner of local bravos and warrior monk sects such as the famous monks of Shaolin and Wudang.⁷⁰ People's militia were typically organized and led by local officials.

There is a great deal of romantic heroism associated with local militia forces. This was intentional on the part of the Ming. They invited comparisons with the dashing heroes of Chinese folklore and specifically sought out skilled martial artists to help suppress local banditry. The warrior monks of Shaolin temple, immortalized in martial arts movies, were the most famous of these groups and are mentioned frequently in discussions of local military forces and battling bandits. It is said that during the troubles with the Japanese, Shaolin temple sent forty monks to the aid of the government and these worthies were always victorious.⁷¹ The warrior monks were not the only ones to be credited with great martial prowess. Particular skills were associated with inhabitants of different localities. Fujianese troops specialized in the use of javelins and shields. Those from Fujian were reputed to be skilled martial artists. The aborigines of the southwest, most notably the infamous wolf troops (*lang bing*) of Guizhou, were renowned for their fearlessness and ferocity in combat.⁷² Southwestern aboriginals were a mainstay of Ming military units and their use was not confined to local defense. There are records of aboriginal forces in campaigns all over the empire and even in Korea in the sixteenth and seventeenth centuries.⁷³

Having provided this overview of Ming military institutions and the significance of infantry therein, we will now turn to a discussion of overarching operating principles and illustrations from specific cases. In a nutshell the core strategic principle of the Ming rulers was to maintain hegemony in East Asia by manifesting awe (*wei*), both domestically and in clashes with neighboring states.⁷⁴ This was accomplished by multiple means.

First, the Ming deployed large military forces drawn from throughout the

70 See He and Wang, *Zhongguo bing zhi shi*, 242.

71 See *MS*, 2252.

72 The wolf troops were so famous that as late as World War II Nationalist troops appropriated the moniker.

73 *MS*, 2252.

74 For a lengthy discussion of this principle, see Swope, "Manifesting Awe."

empire so as to impress upon its foes the resources of the imperial state. Contemporary Ming sources always list the troops raised from different regions, often drawing attention to particular military practices or skill sets and explicitly mentioning the psychological effects this supposedly had on the Ming's enemies.⁷⁵ Southwestern aborigines, for example, were supposedly masters of guerrilla warfare, skilled at ambushes, fearless in battle, and adept in the use of poisons. They also used elephant cavalry, though that is beyond the scope of the present essay. Nomadic tribespeople were valued for their mobility and ability to break through lines of defense. In the war against the Japanese in Korea, after northern cavalry forces suffered a major defeat in the Battle of Byeokjegwan against the Japanese, the Ming increasingly rotated in southern infantry troops, who were trained in the tactics of Qi Jiguang and were deemed more effective in combatting the samurai. So effective were these troops that Qi's training manuals were translated into Korean so that their tactics could be imparted to the Ming's allies.⁷⁶

Because of its massive population and correspondingly large military apparatus, the Ming could almost always assume a numerical advantage, though there were rare exceptions (as in the case of the Japanese in Korea who held numerical superiority for much of war). And even domestic foes might raise forces that exceeded 100,000 as in the rebellion of Yang Yinglong (1587-1600).⁷⁷ Part of this strategy of overawing one's foes also involved recruited local allies. This was seen most often in the minority uprisings in southwest China, where the Ming would attempt to leverage local disputes to their own advantage in quelling rebels, not unlike other empires in similar situations such as the British and French in their battles alongside Native American allies.⁷⁸

With respect to tactics, large numbers would be used to drive wedges into enemy formations, break their lines, or destroy their defenses, usually in con-

75 Examples can be found in Mao Ruizheng, *Wanli san da zheng kao* vol. 58 in Shen Yunlong, comp., *Ming-Qing shiliao huibian* (Taipei: Wenhai chubanshe, 1971); and Zhuge Yuansheng, *Liang chao pingrang lu* (Tibei: Taiwan xuesheng shuju, 1969).

76 Kenneth M. Swope, *A Dragon's Head and A Serpent's Tail: Ming China and the First Great East Asian War, 1592-1598* (Norman: University of Oklahoma Press, 2009), 163-169.

77 See Swope, "Three Great Campaigns," 386-453.

78 See Wayne E. Lee, ed., *Empires and Indigenes: Intercultural Alliance, Imperial Expansion, and Warfare in the Early Modern World* (New York: New York University Press, 2011).

junction with the application of artillery power. Then, elite groups of “housemen” (*jia ding*) would be brought into the fray to exploit the advantage. Senior military commanders generally had from 500-3000 such troops, which would accompany them throughout the empire in violation of prescriptions laid out in the dynasty’s infancy. Again, it was Qi Jiguang who successfully argued that a fairly small force of loyal and well-trained soldiers was essential to effective command, as they could train others and their rapport with their commander was invaluable in tight spots. Thus, in the eras of the Ming’s greatest military success, such as in the early decades of the reign of the Wanli Emperor (r. 1573-1620) these infantry forces were deployed to trouble spots throughout the empire and commanders and units with specific skill sets would be deployed to particular trouble spots.

As noted above, application of superior firepower was another hallmark of Ming infantry operations. Sources specifically reference this in multiple cases, most notably with regards to minority uprisings in the southwest.⁷⁹ Ming commanders were explicitly told to bring in lots of guns to overawe the locals and put their crude thatch huts to the torch. In the Bozhou campaign to defeat Yang Yinglong, the Ming purposely brought in lighter firearms that could be carried on the soldiers’ backs as they hacked their way through the forested mountains. Significantly, their troops also included contingents of Japanese arquebuses captured in Korea.⁸⁰ In the climatic showdown against the rebel leader Yang Yinglong, the Ming forces incinerated his wooden fortress of Hailongtun with cannon and flaming arrows, a tactic that would be replicated in later campaigns against aboriginal rebels in the region.

The end result, however, was the increasing militarization of the southwest, which would have significant ramifications later. During the She-An Rebellion of 1621-29 in roughly the same region, the Ming state exhausted considerable resources in part because their technological edge was not as significant. Moreover, in subsequent decades, the Ming loyalist groups and their (now allied) local minority forces often held a technological edge over the Qing invaders. In

79 See George L. Israel, *Doing Good and Ridding Evil in Ming China: The Political Career of Wang Yangming* (Leiden: Brill 2014), 46-101.

80 Barend Noordam, “Heart-Minds and Harquebuses: The Bozhou Rebellion in China, 1587-1600,” *Small Wars and Insurgencies* 34.3 (2023), 627-669.

fact, the technological development of the southwest became advanced enough that the former Ming peasant rebel leaders established their own weapons manufacturing facilities. These would in turn fall into the hands of the Ming turned Qing turned rebel general Wu Sangui (1612-1678) and further bedevil the Qing in the War of the Three Feudatories (1673-1681).

The same applied to Ming wars in the neighboring states of Dai Viet and Joseon Korea. In their intervention in Korea in the early fifteenth century, the Ming overwhelmed the Vietnamese, their guns wreaking havoc on the locals' elephant cavalry forces. But over the course of the war, the Vietnamese captured increasing numbers of firearms and began manufacturing them on their own. Once the Ming finally pulled out of Vietnam in 1428 its colonization efforts having failed, the Vietnamese turned their guns on the Chams to their south, annexing the Kingdom of Champa by 1471.⁸¹ In Korea, Ming weaponry proved critical in turning the tide of the Japanese invasion. At the Battle of Pyongyang in 1593 Ming cannons obliterated that Japanese defenses, taking the city in a single day after a previous expedition had failed miserably.⁸² For the rest of that conflict the Japanese were loathe to engage the Ming in set-piece battles where they could bring their big guns to bear. Ming and Korean artillery also played a key role in the defeat of the Japanese at sea.⁸³

Infantry also played a key role in siege warfare, though sieges were uncommon in the Ming era until the dynasty's waning decades. This was for several reasons. First off, most Chinese cities of any consequence were surrounded by thick walls of compacted earth faced with brick that were highly resistant to the artillery of the day and even later, as demonstrated by the ability of Ming-era walls to withstand Western cannon barrages in the late nineteenth century. Though the state did not hold a complete monopoly on firearms technology, it still placed cannon on most major city walls and could usually outgun any potential threats. Therefore, sieges generally degenerated into protracted contests

81 See Swope, "Gunsmoke," 164-166.

82 The Battle of Pyongyang is described in detail in Kenneth M. Swope, "Turning the Tide: The Strategic and Psychological Significance of the Liberation of Pyongyang in 1593," *War and Society* 21.2 (Oct. 2003), 1-22.

83 Kenneth M. Swope, "Crouching Tigers, Secret Weapons: Military Technology Deployed During the Sino-Japanese-Korean War, 1592-1598," *Journal of Military History* 69.1 (Jan. 2005), 11-42.

of attrition whereby the use of fifth columnists, outright starvation, or sapping accompanied by flooding eventually carried the day even though artillery of all types was employed by both attackers and defenders. The latter tactic was how the two most notable sieges of the late Ming—the Siege of Ningxia in 1592—and the Siege of Kaifeng in 1641-42, were completed. In the former siege Ming forces surrounded a distant frontier city and fought off mobile attacks by the rebels' Mongol allies until they diverted the Yellow River, several tributaries, and nearby lake water into the city.⁸⁴ The Siege of Kaifeng marked one of the first great victories of the peasant rebel Li Zicheng (1605-1645), who would seize Beijing in the spring of 1644 and demonstrated both Li's tactical sophistication and the increasing militarization of the empire.⁸⁵

Other late Ming sieges demonstrate the increasing significance of artillery in Ming military operations as well as the significance of the dissemination of new military technologies across Northeast Asia. As noted above, in Korea the Ming were faced with a highly skilled and technologically adept foe in the Japanese, but they did hold the advantage, at least in terms of artillery power. But the Japanese were skilled at siegecraft by virtue of their own decades of civil war and they brought this knowledge to Korea, repurposing Korean fortresses and walled cities with angled bastions allowing them to use crossfire with the arquebuses they preferred.⁸⁶ The Ming relied upon their heavy cannon and exploiting breaches in their standard fashion, using the elite housemen to carry the day. These tactics produced mixed results, often with heavy casualties, but in the end, the Sino-Korean allies ousted the invaders from the Korean peninsula, achieving their strategic aims and preserving Chinese hegemony on the Asian continent for nearly four more centuries.

84 This siege is described in detail in Kenneth M. Swope, "All Men are Not Brothers: Ethnic Identity and Dynastic Loyalty in the Ningxia Mutiny of 1592," *Late Imperial China* 24.1 (June 2003), 79-129. An eyewitness account can be found in Mei Guozhen, *Xi zheng ji*, 2 vols. (Tokyo: Tokyo daigaku, 1973).

85 The siege of Kaifeng is discussed in Swope, *Military Collapse*, 171-180. Also see Roger V. Des Forges, *Cultural Centrality and Political Change in Chinese History: Northeast Henan in the Fall of the Ming* (Stanford: Stanford University Press, 2003), 237-266.

86 Detailed analyses of sieges in Korea can be found in Kenneth M. Swope, "Beyond Turtleboats: Siege Accounts from Toyotomi Hideyoshi's Second Invasion of Korea, 1597-98," *Sungkyun Journal of East Asian Studies* 6.2 (Oct. 2006), 177-206.

The next round of sieges took place beyond the Great Wall in the epic struggle between the Ming and the Latter Jin/Qing in the 1630s and 40s.⁸⁷ Though the upstart Jin were initially successful in open field battles, the success of the Ming in using “Red Barbarian Cannon” in the Siege of Ningyuan in 1626 convinced the second Jin ruler, Hong Taiji of the need to add an infantry arm dedicated to firearms to his military forces. Thus were born the so-called “Chinese Banners” (*Hanjun*), led by Chinese defectors, which would play in many respects the decisive role in the ultimate Qing conquest of the Ming empire. They cut their teeth in a series of battles in the northeast that saw them increasingly wed Ming infantry tactics with nomadic mobility.⁸⁸ These battles convinced the Qing that, contrary to received wisdom, they could not, in fact, conquer the empire on horseback. Infantry were essential to the completion of their grand enterprise, a realization that would be underscored in the conflicts of the next four decades.

Unlike the dynasties that preceded and succeeded it, the Ming was, by design, a sedentary, agriculturally-focused empire that relied first and foremost on infantry-centered armies. While this had its shortcomings, as exemplified by Ming difficulties on the steppe and in combatting the so-called “wandering bandits” (*liu kou*) of the dynasty’s waning years, for the most part they fulfilled their mission of preserving domestic stability and ensuring regional hegemony. Throughout its long history as the most prosperous empire on the planet the Ming continually revised its military institutions, adapted and deployed new technologies, and adjusted tactics to meet a bewildering array of military challenges. In the process Ming rulers created the world’s first firearms training divisions and reconstructed the Great Wall of China, an internationally recognized symbol of power, wealth, and engineering prowess that was used both offensively and defensively and embodied the notion of “Manifesting Awe”.

87 The Jurchen leader Nurhaci (1559-1626) initially named his state the Latter Jin to denote the connection with the Jin state that ruled North China from 1126-1234, when it was defeated by the Mongols. The Jin rulers were Jurchens. In 1635-36 Nurhaci’s son, Hong Taiji (r. 1627-43), officially renamed his people the Manchus and his state the Qing (which means pure or clear) in order to obscure the fact that they had formerly been Ming vassals and to suggest parity with the Ming.

88 These battles are covered in Swope, *Military Collapse*, 110-17, and 163-70; and Yan Hon Michael Chung, “Ethnicizing the Artillery,” 133-212, which also covers early Qing campaigns in China proper.

Infantry Traditions in West Central Africa, 1500-1800

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For military purposes, West Central Africa can be defined as land laying between the left bank of the Congo River from to the junction of the Kwango-Kasai-Kwilu Rivers (its eastern border) to the Atlantic (its western one). Inland from that we have very little knowledge until the Lunda Empire advanced to the Kwango in the 1750s. On the south the boundary of our knowledge extends as far as the southern ranges of the Central Plateau of Angola. Within this area much of our knowledge comes from the operations of the Portuguese armies and their enemies. The sources thus available are, however, first hand eyewitness accounts for the most part and quite substantial by the standards of pre-colonial Africa.¹

West Central Africa had a tropical climate, although this was moderated by highland areas, of which the most important were the highlands east of Luanda around the modern towns of N'dalatando and Malange and the Central Plateau with towns of Huambo and Cuito. Highlands that define the western watershed of the Kwango River were also significant in the Kingdom of Kongo.

In 1500 the region was dominated by the Kingdom of Kongo, one of the largest polities to exist in sub-Equatorial Africa, although smaller kingdoms, such as Kongo's eastern neighbor, the Tio Kingdom or Great Makoko, and the shadowy Empire of Mwene Muji surrounded it. One of the notable features of the period following 1500 was the rise of the Kingdom of Ndongo to Kongo's south, and the beginnings of Portuguese colonization of the region with the founding of

¹ For a historical overview of the region until 1850, see John Thornton, *A History of West Central Africa to 1850* (Cambridge: Cambridge University Press, 2020).

Angola in 1575. Other smaller kingdoms like Matamba and even smaller units like the “Dembos” of which Nambu a Ngongo and Mbwila were important, were interspersed within the region.

The arrival of Portugal in Angola, and their subsequent development of a substantial conquest with the support of a number of African allies created an interesting combination of differing military styles. What was distinctive about the Portuguese art of war in Angola was that so much of it was more or less identical to the style of the African powers. Although the Portuguese did bring their own elements in to the region, warfare often followed directions developed by the African military traditions.

The region had quite a bit of warfare, typically the expansionist wars of Kongo, Ndongo, and Portugal, as well as lesser wars, raids and other conflicts between the smaller kingdoms of the region. Our knowledge of this warfare is highly skewed by the differential testimony provided by documentary sources, so that within this confined area and circumstances, there is still relatively limited knowledge about the organization of armies and the conduct of battle in West Central Africa, given the relative absence of well-informed reporting, especially of battles. Although missionaries are often our most prolific writers and often excellent observers about the larger society, they were not often present at battles. Jesuits serving in Angola in the late sixteenth century were a notable exception to this rule, and we can learn a great deal from their accounts of wars.

However, there is nothing like the military reporting of António de Oliveira Cadornega, a soldier and direct witness of some of the battles and a knowledgeable reporter of actions he was not a direct witness of. Arriving in Angola in 1639, he described, often in painstaking detail, battles fought between the Portuguese and their allies and the forces of Ndongo, particularly led by Queen Njinga, but including actions up to 1681.²

Likewise, for the eighteenth century, Elias Alexandre da Silva Corrêa provides his own accounts of military actions, both in terms of general operations and organizational features.³ Paulo Martins Pinheiro de Lacerda, a professional

2 António de Oliveira Cadornega, *História geral das guerras angolanas (1680-1681)* mod. ed. José Matias Delgado and Manuel Alves da Cunha (3 volumes, Lisbon: Agência-Geral do Ultramar, 1972)

3 Elias Alexandre da Silva Corrêa. *História de Angola* (2 vols, Lisbon: Ática, 1937), arrived in

military man as well, also provides the sort of fine-grained testimony that allows us to understand action better.⁴ But there are large and sometimes long gaps in this sort of necessary coverage that makes it hard to see the process by which military thinking and action changed.

In between these detailed and useful accounts, we have frequent documentation on the existence of warfare, but with very little information about its conduct. Not only that but the information is skewed in favor of Portuguese wars and activities, so that we know how the Portuguese conducted war, and often quite a bit about how their enemies did, but not in a detailed way. For example, even though we know about wars between Kongo and Portugal, we know almost nothing about wars Kongo waged with Great Makoko, or how armies fought in the civil wars that often troubled Kongo.

Nevertheless, any reconstruction in detail of military affairs in West Central Africa is highly dependent upon specific battles described in these sources. Most of Cadornega's information came from battles waged by the Portuguese, especially during the "Dutch War" (1641-1648) when the Dutch temporarily took the western part of Angola, and relied on Njinga to fight the Portuguese. Silva Corrêa served in the 1780s but his best contribution was in describing warfare in general in that period. The best battle description from the period by Pinheiro de Lacerda is self-serving, but can still be usefully understood.

Characteristics of warfare in West Central Africa to 1770⁵

One of the most significant elements of warfare in this region was that it was impossible to maintain horses in order to create a cavalry. Diseases affected horses, so that although they might be brought to Angola (as they certainly were) they either died rapidly or were weakened and so there was no cavalry. The Portuguese initially thought that they would be able to conquer Angola as the Spanish had conquered Mexico and Peru, only to find that their cavalry

Angola in 1782 and finished his book in 1792.

4 His campaign diary, one of the most detailed accounts of military activity was reproduced in Silva Corrêa, *Historia*, 2: 179-233.

5 For a more fully documented treatment of the early period, see John Thornton, "The Art of War in Angola, 1575-1680," *Comparative Studies in Society and History*, 30 (1988): 360-378.

could not function in the African environment.

Instead, horsemen were only used for reconnaissance and as mounts for officers. Of course, military writers bewailed the failure to develop a cavalry and in vain hope they regularly imported horses from Brazil. However, as far as the documentation shows, cavalry never charged fleeing infantry in wars, nor outflanked infantry formations, even if a handful of cavalries regularly appear when orders of battle were described.

The absence of cavalry thus made infantry the only really effective force, for only the Portuguese made any use of artillery. African armies, again as can be determined from the documentary record, did not use artillery, even though some countries had some guns. Soyo, notably, the coastal province of the Kingdom of Kongo, acquired a fairly large stock of cannons in its relations with the Dutch, but artillery is not mentioned in the accounts of Soyo's intervention in Kongo's affairs in the late seventeenth century.⁶ Cannons were employed effectively at times, particularly when used against fortifications but sometimes as an anti-personnel weapon.

Perhaps the most important impact that the absence of cavalry created was that when military formations broke, the soldiers could simply run away and not expect to be ridden down by cavalry as broken formations were in Europe. There was no need to form tight formations in order to prevent cavalry attacks wreaking havoc on the infantry, and so armies looked quite different from those fighting in Europe, often forming in open, loose bodies and engaging in short retreats and reformations.

The lack of animal traction in general had a major impact on the logistics of armies in Angola, for they needed to carry all their supplies on their backs. Angola was sparsely populated: population density estimates for Kongo in the early seventeenth century point to average rural densities of only 4-8 persons per square kilometer.⁷ The population was scattered in small villages, and when large forces moved in the country people moved out taking whatever they could.

For this reason, every army had to have a large human supply chain. Esti-

6 Thornton, *West Central Africa*, p. 197.

7 John Thornton, "Revising the Population History of the Kingdom of Kongo," *Journal of African History* 62 (2021): 201-212

mates from the mid-seventeenth century suggest that about one carrier for every two soldiers was the norm. The supply train was called *kikumba* in Kimbundu (the language in the area where Portugal operated), and was composed mostly of *mulheiro e gente inutil* (womenfolk and useless people), useless here only meaning not counted among fighters. As armies drew up to fight, the placement of this large number of people was important—should the army be drawn up around them to protect them, or should they be left in the rear?⁸ In wars where the capture of slaves was important (almost always), they were potentially the means with which the winners could offset the costs of war.

In the earliest documented times, armies in Kongo and Ndongo had a division between professional and non-professional components. Professional soldiers trained and developed skills, typically for hand to hand fighting, while the non-professional soldiers were typically archers, recruited from the ordinary population by mass call-up and not expected to remain too long on the battlefield. The professional soldiers appear to have been stationed in permanent locations, often in or around capitals, either of the kingdom or smaller subdivisions. Many times, they were considered low level nobles, for example in Kongo (which converted to Christianity in the late fifteenth century), Knights of the Order of Christ, who were paid regular stipends.

In Kongo the professional soldiers were noted for carrying fairly large shields and using swords, as illustrated in Cadornega's painting of the king of Kongo in his manuscript; and in the Ndongo figure, they did not bear shields but were noted for fighting hand to hand with battle axe, sword and perhaps lance.⁹ The Jesuit priest Baltasar Afonso, who saw Kongo troops in action in 1577, early in Portuguese invasion, when Kongo was actively assisting them, believed that the *adargueiros* (shield bearers) were the best troops in the country.¹⁰

The Portuguese, who could be considered in the same category as the professionals in Kongo or Ndongo, were noted for carrying guns, but also for fighting with swords. Indeed, they appear to be more noted for their fencing skills than their shooting ones.

8 Thornton, "Art of War," pp. 370-371.

9 Cadornega, *História* 1: facing p. 3, and 3: facing pp. 109 and 215.

10 Baltasar Afonso to Jesuit superior, 9 October 1577," *MMA* 3: 157.

Seventeenth century armies were mobilized through small units, although their nature and structure are unclear. However, the existence of permanent units, typically of what might be called company strength, can be inferred from unit flags. Thus, according to Cadornega, Portuguese soldiers facing Njinga's army at Cavanga in 1646 could look at the flags on the other side of the field and pronounce which units were there.¹¹ The most detailed description of this type of organization came from Njinga's defeat of an army of Kasanje in the 1660s in which two levels of command are identified through the flags and officers.¹²

However organized, the troops were typically brigaded into several large and linear formations, called *mozengo* in Kimbundu. These larger units were deployed, for example, in a three-wing formation (center and two flanks) that might be altered for tactical reasons, but continue the idea of fairly large concentrated formations. Frequently there would be a reserve component kept in the rear as well. Battles would begin with arrow strikes, frequently only a few, and then the main forces would advance to fight hand to hand. Such was the case for battles described by Jesuit priest on the first phases of the Portuguese conquest.¹³ Italian humanist Filippo Pigafetta, quoting from Duarte Lopes the Kongo ambassador to Rome, made similar observations concerning Kongo's army.¹⁴

After this softening up phase, one of the armies would advance upon the other, often favoring a flank attack, to seek to break up or destroy their opponent's mass soldiers. As the formations met, they would engage in hand to hand combat.

Dancing was important to the course of the hand to hand combat. Not only was a *sanga*, or as Portuguese terminology had it, to do a *sangamento* was to dance; the term was found in both Kikongo and Kimbundu. Late sixteenth century Jesuits were quite explicit in defining it, they wrote about *sanga* which meant "to leap from one side to another with a thousand twists and such agility

11 Cadornega, *Historia* 1: 404.

12 Biblioteca Estense, Modena, MSS Araldi, Giovanni Antonio Cavazzi da Montecuccolo, "Book 3, pp. 30-31.

13 Pero Rodrigues, "História da residencia dos Padres da Comhaphia de Jesus em Angola, e cousas tocantes ao Reino e conquista" (1 May 1594), in António Brásio, ed. *Monumenta Missionaria Africana* [henceforward *MMA*] (series 1, 15 volumes, Lisbon: Agência Geral do Ultramar [and others] 1952-1988) 4: 563.

14 Filippo Pigafetta, *Relatione del Reame di Congo et delle circonvicine contrade tratta dalli scritti & ragionamenti di Odoardo Lopez Portoghese* (Rome: Grassi, 1591), p. 21.

that they can dodge arrows and spears.”¹⁵ Clearly this is not something that can be done in a tight, disciplined formation such as the European witnesses would have imagined from their home countries.

Rather, we should imagine that the men were gathered into a loose formation, with considerable distance between them, but close enough together so they could support the soldiers on each side. They were in this regard, more like a sort of organized crowd than a phalanx, or even the typical European linear formation of the early modern period. The African formation might also involve a deeper deployment, so that second rank soldiers were positioned so as to intervene if a first rank soldier were wounded or killed, and thus prevent breakthroughs (but also to exploit the possibility should it occur).

The dancing might be imagined as being something like the movements of a professional boxer, on his toes, constantly shifting his center of gravity to be able to maneuver against his opponent and take advantage of slight changes in position. But at the same time, this boxer’s shuffle had to be more complex, since the dancing soldier was also dodging arrows or javelins (and perhaps also lances). “Leaping” and “twisting” are far more than shuffling, and also require considerable space.

Nor, we should add, would this necessarily be like the Central African dances that gave birth to Capoeira, the Brazilian martial art dancing, which often involved floor (ground movements) and kicking. It does however, appear to have survived in “stick fighting” done by slaves in America and in that form surviving to modern times.¹⁶ While it is possible that at least some of the Capoeira movements might be involved, the deployment of hand-held weapons: swords, battle axes, clubs or lances require more stability.¹⁷ More to the point, the dancing provided a dynamic stability to the coordinated deployment of weapons.

15 Rodrigues, “Historia” *MMA* 4: 563.

16 For a discussion of the origins of Capoeira in Angola’s Central Highlands, see Thomas Desch-Obi, *Fighting for Honor: The History of African Martial Art Traditions in the Atlantic World*. (Columbia, SC: University of South Carolina Press, 2008).

17 This section is informed by conversations with historian Thomas Desch-Obi, who is also a trained martial artist and a student of Capoeira as well as other African and African American martial dance forms. Inspiration also from discussions with Amanda Thornton, a black belt in Brazilian Ju-Jitsu. An illustration of stick fighting from Trinidad can be seen in Desch-Obi’s posting on YouTube: [Trinidad Stick Fighting I](#)

Given the role of dancing, drummers played loudly during battles to provide the necessary rhythm that the soldiers needed to coordinate their movements, and provide psychological support. At the battle of Cavanga in 1646, when Njinga faced the Portuguese and their allies, fighting began at 9 o'clock in the morning with the drumming of "Caixas [literally boxes, a drum type] and other warlike instruments resounding from one side to the other with great noise, which thundered through the land."¹⁸ While both armies had their own musicians, it is likely that, enemies or not, they would have to coordinate their music in order to avoid the chaos of contrasting rhythms.

In addition to contributing to dancing, the drums were also used, as bugles might have been in Europe, to give orders. Pigafetta noted several types of drums which would make distinctive sounds, even over the sound of battle, that would give commands to different levels of command, from individual units to general orders from the central command.¹⁹

In any case, the battle was usually decided in the phase of hand to hand fighting. Portuguese reported that if they failed to win, they would often be annihilated. Kongo lost a large component of its lower nobility at Mbvila in 1665. Professional soldiers with military training were not easy to replace and so a setback could hamper the efforts of a military community quite seriously.

The critical nature of a professional component to an army can be demonstrated by the Yaka (Jaga, Giaghi and Jaca in the original sources) invasion of Kongo in 1568. The Yaka were a military body that apparently had no political loyalty, but came out of a province of the Empire of Mwene Muji beyond Kongo's eastern border. Mwene Muji was primarily a riverine power, and they probably exercised little control over the area where the Yaka emerged.²⁰ The Yaka entered Kongo through its province of Mbata and then smashed all forces placed against it, including capturing Mbanza Kongo, the kingdom's capital and forcing the new king Álvaro I to flee to an island in the Congo River.

For all the damage they did and their remarkable military success, the Yaka only numbered some 3,000 soldiers, but with that small force they defeated the

18 Cadornega, *Historia* 1: 406.

19 Pigafetta, *Relatione*, pp. 20-21.

20 John Thornton, "Mwene Muji: A Medieval Empire in Central Africa?" *Journal of African History* 65 (2025)

best armies Kongo had. However, their equipment, including wooden armor, a shield and battle axe would make their armament more like that of the elite soldiers in Kongo, and given what we know of the size of elite units, quite large. When facing archers, as such a force would in the early stages of battle, make their shields into a sort of impromptu fort by driving the bottoms into the ground and then waiting for their opponents to run out of arrows.²¹

Just as the Yaka interrupted the history of Kongo, so a similar group, the Imbangala (who the Portuguese decided to call “Jaga” confusing them with the Yaka) interrupted the history of Ndongo. The origin of the Imbangala is not entirely clear, plausible theories connect them to the southern end of the Angolan Central Highlands. They appear to be military units recruited from this region, perhaps renegade army units, and especially mobilizing older children though a system of brainwashing most widely known for its use in the mobilization of child soldiers in the modern world.²²

Unlike the Yaka, they did not carry armor or shields, and fought with bows and with battle axes. Both groups fostered ideas that they were cannibals, if they did not indeed practice it. The cannibalism was a terror tactic, at least as far as seventeenth century witnesses were concerned, that it was enough for rumors of their approach to reach an area before the people would flee.

Perhaps the most decisive moment in the history of the Portuguese conquest of Angola came when they recruited Imbangala to fight for them in their war against Ndongo in 1619. They smashed the army of Ndongo, forced the king to abandon his capital and take refuge on an island in the Kwanza River. It persuaded the many local rulers to align themselves with the Portuguese, perceiving the to be a winner, and contributed substantially to the building of a viable colony of Portugal in Angola.²³

21 Untitled account of Kongo, probably written by Diego de la Encarnación in about 1587, henceforth Florentine Relation, Biblioteca Nazionale Centrale di Firenze, Manoscritti Panciatichiani 200, fol. 171; Pigafetta, *Relatione*, p. 77. Also see the discussion in John Thornton, “New Light on the ‘Jaga’ Episode in the History of Kongo,” *Cahiers d’études africaines* 52 (2022): 441-460.

22 The analogy proposed by Linda Heywood and John Thornton, *Central Africans, Atlantic Creoles and the Foundation of the Americas* (Cambridge: Cambridge University Press, 2007), pp. 93-94.

23 Details on the invasion in Heywood and Thornton, *Central Africans*, pp. 115-142; and Thornton, *West Central Africa*, pp. 103-106.

Although the Imbangala were not loyal to anyone and were soon looting both Portuguese as well as Ndongo communities, the damage they did in the two or three years when they were new to war created a permanent division of Ndongo and a stable home for Portuguese power. The shock wore off, however, for when João Correia de Sousa sought to conquer Kongo in 1623 with Imbangala allies they were defeated at Mbanda Kasi and expelled. Eventually Imbangala were tamed and served as permanent elite units in Njinga's army and the Portuguese army as well as founding a kingdom of their own in Kasanje.²⁴

The Portuguese were another element in the war. Portuguese soldiers from the 1570s onwards were especially characterized as using guns as their weapons and wearing some protective armor, so in this way they resembled the elite component of the African armies. They typically fought in a defensive square in the midst of archers and elite Mbundu soldiers. They also carried swords for fighting hand to hand.

In the seventeenth century they carried matchlock muskets, and such a weapon had distinct advantages and disadvantages. The disadvantage was its slow rate of fire, much slower than that of an archer, and not particularly superior in accuracy if perhaps not in range. Portuguese musketry sometimes proved important in repelling attacks as they did at Cavanga in 1646, but normally they ended up fighting hand to hand with the sword.

A big advantage of the musket was that the bullet could not be seen in flight and could not be dodged as arrows could. Musket balls could easily penetrate the shields of Kongolese soldiers, as they did in the battle of Mbumbi in 1622, contributing to the Portuguese victory there. Moreover, since Portuguese wore armor: helmet and breastplate, they had an advantage in hand to hand fighting, especially against the unarmored opponents in Mbundu armies. They found themselves at less of an advantage against Kongolese shield bearing soldiers at Kitombo in 1670, and some of them retrieved the shields from the Kongolese dead in their first encounter on Kongo's border to carry into their later and unsuccessful attack on Soyo.

24 Thornton, *West Central Africa*, pp. 188-191.

A Gunpowder Transformation, 1770s and beyond

One of the distinctive features of West Central African infantries was its long retention of archery as a major arm. If Agaja of Dahomey declared (perhaps a bit prematurely) that he had entirely left off with the old weapons in favor of guns in 1726, armies in West Central Africa still had major archery components in mid-century.²⁵ A Portuguese led expedition attacked the “Cabundas”, a league of political authorities to the east of the Portuguese position in Benguela in 1755-56; in one action, the commander organized two “battalions of 34 [Portuguese] soldiers each, 200 black *empacaceiros* [sharpshooters] with muskets and 2 thousand with bows.”²⁶ In 1764, a small force sent to attack along the Kwanza River, had some “thirty soldiers from the Regiment, and twelve of the Troop, with two hundred black bowmen.”²⁷

The situation had changed, however, by the late 1760s or early 1770s. In the Mbailundu war, waged across the Central Highlands in 1773-1774, and described by several witnesses, soldiers on both sides seemed equipped with guns, and there is no mention of archery in the accounts of battle.²⁸ This Mbailundu war was Portugal’s most extensive war, involving far more soldiers than any other military action in the eighteenth and early nineteenth century.

Elias Alexandre da Silva Corrêa, is, as it were, the Cadornega of the eighteenth century, as he was a military man and attentive to details. He did not witness this particular battle, but chose to include a long footnote about military organization, tactics, and other matters relating to military operations in the text

25 On Agaja, see Robin Law, “An Alternative Text of King Agaja’s Letter to King George I of England, 1726,” *History in Africa* 29 (2014): 265.

26 Described in slightly different ways in two reports, Arquivo Histórico Ultramarino, Cx 40a, documento 130 [new numeration Cx 44, doc 4059], Domingos de Fonseca Negrão, 20 April 1756; and Instituto Histórico e Geographico do Brasil (Rio de Janeiro, DL 106, 15 fol. 5v. The AHU renumbered all its documents in the 2010s, but as many scholarly works cited the previous designations, I have supplied both references to facilitate checking against earlier historiography. Works published before about 1980 used a different system, but I cannot recover those references.

27 AHU, Cx 45 doc. 44 (new numeration Caixa 48, doc 4430) António de Vasconcelhos to King, 12 June 1762.

28 AHU, Cx 62, doc 18 [new numeration Cx. 61 doc. 5329], Ofício de Antonio de Lencastre, 1 June 1776; Silva Corrêa, 2: 48-69 (included in this section is a long footnote, which runs from 48-60 that explain in detail the manner of fighting in Angola)

of his account, itself rather long and detailed, in his description of the Mbailundu War.

He described the way the Portuguese organized their army, relying on several different types of soldiers, some were either Europeans or organized in a European manner (typically some were African in origin, some mixed race), then the artillery, cavalry and the much larger “Guerra Preta” or Black Army who were organized and fought as African armies did. Silva Corrêa was born in Brazil, but served there and in Portugal and so was partial to European methods and techniques, but pointedly observed that these were not used in Angola.²⁹

Here, for example, he bemoaned the idea that the cavalry rarely attacked, and although he thought that 10, 15 or 20 horses, were “intolerable” to African soldiers, and could retrieve a difficult situation. While he claimed that Africans recalled, in tradition, the horror of the time when the Portuguese had 200 horsemen, there were nowhere near that many in his time (nor is there any evidence that this was anything more than a tradition).³⁰

Nevertheless, Portuguese typically marched out to their destination, and suffered attacks by the Africans they opposed. Indeed, most of the larger military operations that Portugal underwent in the eighteenth century were more or less raids, intended to move into a country that they identified as enemy, burn crops and if possible capture the capital city and better still, force the ruler to capitulate. Having achieved this objective, however they always withdrew immediately, leaving no administrative force, garrison or any other means of enforcing the conquest.

Thus, Portuguese authority in Africa after 1680 did not result in any conquest, the countries they had made peace with in the late seventeenth century remained in control, and while they might attack a neighboring country (like Matamba in 1744) successfully, and install a ruler they believed would be compliant, such rulers could scarcely be counted on to support Portuguese policy. If they were successful the attack could pay for itself with the seizure of slaves, although these elaborate campaigns were quite rare, and so not the major source of slaves for export. In fact, it would seem that the primary cause of these wars

29 His background is given by Manuel Múrias in the preface of the 1937 edition of *Historia*.

30 Silva Corrêa, *Historia* 2: 52 note a; 57.

was the desire of a governor, serving on a short term before returning to Portugal, could claim military glory and reputation, and benefit from direct control over a substantial body of enslaved captives.

However, war did change in the eighteenth century. Silva Corrêa's detailed account of tactics in the 1770 and 80s shows a radical change in the way war was conducted. The African forces Portugal encountered no longer fought in linear masses, arranged in orderly three-part configurations. Instead they were divided in many small units. These troops, marked by their flags as in earlier times, were not formed up but deployed in "heaps" and fought in what Silva Corrêa thought was a hopelessly disorderly fashion. They advanced, stopped, moved, retreated and returned. They made use of cover, or at least long grass or other ways of avoid full observation, and fired at will as soon as they saw a target.

And they still danced. Attacks were marked by the sound of many "war-like" musical instruments, which can be explained much as the music for linear tactics could be—to make the single body movements coherent. No longer supporting their neighbors in a mass, they showed themselves only to draw fire which they avoided by constantly moving around, and then when they saw an opportunity, they fired themselves.³¹ However, even these movements require coordination, some of which probably came from predetermined plans, but the execution was also probably enabled through rhymical patterns.

Silva Corrêa also noted that the Portuguese army itself, at least that part that was recruited from their African allies or subjects' forces, fought exactly as their enemies did. He observed that this same situation existed earlier, reporting the same story about Luis Mendes de Vasconcellos, who came to modernize warfare in Angola in 1617, that he ended up making the Portuguese army like their opponents. They too were organized in small groups, fought in a manner he thought disorderly, and followed their unit flags into battle, which he said had the same result as "Frederick the Great of Prussia."³²

The Portuguese also had regular or paid soldiers in their army: Europeans or creoles who had trained in the techniques of Europe. They were stationed to guard the ammunition and supplies in battle, rather than engage enemy soldiers

31 Silva Corrêa, *Historia* 2: 56-58.

32 Silva Corrêa, *Historia* 2: 57.

in combat (barring a direct attack on the supplies). They had trained to fight in “squares” or typical European military formations, and they exhibited these in peacetime in Luanda, impressing the Africans who saw them. But, he added, they never fought this way in a real battle, he believed that their presence encouraged the African soldiers who somehow believed that their presence gave them an advantage.

Given his background and inclinations, and general low opinion of Africans in general, Silva Corrêa thought the Africans hopelessly disorganized and in a way incompetent, even though their methods worked in the field. As a soldier trained in the European tradition, such an observation would be hardly surprising since the developments in the art of war in Europe had undergone the changes associated with the Military Revolution and fought in tightly organized, linear movements.

What he was witnessing was in fact, what has recently been called “swarming.” The term was coined in 2004 by Sean Edwards and has become increasingly of interest in contemporary warfare, as these tactics became associated with asymmetrical warfare, and then following the war in Ukraine, even with modern mechanized warfare.³³ Warfare is conducted by smaller, quasi-independent units that operate independently within a larger but a relatively well-defined plan. They engage and disengage as the tactical situation requires, but in retreat or redeployment maintain their discipline and adhere to the larger plan. Edwards presented examples as far back as Antiquity to prove his point, and clearly it can be applied widely in areas outside of Europe.

Silva Corrêa wrote an interesting and important description of the basics of war in Angola in the 1780s, but he did not report the actual battles in much detail. His account of the Mbailundu war, for example, spends much time in describing the larger strategy, and the rivalries between the generals conducting the war, and relatively little on how exactly they came to defeat Wambu and Mbailundu the two African kingdoms, usually rivals, who they fought.

Silva Corrêa did include, however, the diary of the 1793 campaign that Pin-

33 Sean Edwards, *Swarming and the Future of Warfare* (Washington, DC: RAND Dissertation, 2004). The considerable academic and military discussion often applies to drone warfare, use of internet applications, and insurgencies, but Edwards historical case studies are more relevant for this project.

heiro de Lacerda fought. It is a good vision of how a campaign might be fought as well as how battles were waged. The campaign was a “punitive” one waged across the southern tier of land held by Kongo and by more independent states of the so-called Dembos region. They had been accused of blocking trade, or smuggling to rival European (mostly French) buyers in Kongo’s province of Musulu, and the war started there and then moved eastward until it reached the Portuguese fort at Encoge, a fort designed itself in the vain hope that it could stop trade northward to markets in Kongo, Loango and its neighbors.

A preliminary campaign in 1790-91 attacked Musulu, and in his description of the action Pinheiro de Lacerda gave information on fighting techniques remarkably similar to those of Silva Corrêa: the people in the Kongo region also fought in small “ platoons” and, also fired in “fogo de alegria” literally joyful firing, but meaning more or less firing in groups then retreating to reload while a second group advanced to fire, or in other words what appeared to be a counter-march to Europeans, but accommodating the much looser platoon organization.

Pinheiro de Lacerda was on the move again in 1793, and gave a description of his passage across the southern wing of Kongo, in which he had nearly daily combats (or “shocks” as he called them) with occasional battles.³⁴ Always anxious to claim great victories, he described the loosely organized platoon groups advancing upon the column, engaging in a hot engagement and then, when the Portuguese organized their own counterattack, retreating.

He regarded these retreats as great victories, in one instance, he reported on the basis of the testimony of a wounded prisoner, that the attackers were of a unit that numbered 1,230 muskets, and their retreat after a phase of firing, claimed that the “disproportion of this Action should place it in the catalog of the most famous combats of the Conquest.” He especially credited the one field piece for inflicting heavy casualties on the attackers, an unlikely comment given that it was firing balls and not grapeshot and into relatively dispersed attackers. It is more likely that the constant “victories” he claimed, were simply the typical maneuvers of the art of war in Kongo at the time.³⁵

One of his most significant claims was the destruction of villages, small

34 Silva Corrêa, *Historia* 2: 179-233.

35 Silva Corrêa, *Historia* 2: 214.

towns, and the burning of crops, something not hard to do if one's enemy is deciding not to put up sustained resistance. While it surely did result in a considerable loss of property (remembering that in Kongo building stock was deliberately impermanent since villages were moved often), and more importantly, the loss of foodstuffs, that would probably lead to famine, the column took very few prisoners, and was virtually destroyed by casualties and desertions by the time it reached its destination at Embaca. In fact, the larger goal of the Angolan government in this as in other campaigns was to punish the inhabitants through inflicting these kinds of losses.

Although he admits at the beginning to bringing forces commanded by local leaders loyal to Portugal, or "sobas" along with him, he tends to mention only the activities of the professional (Portuguese or European trained) troops. Again, this is common to his type of writing, and Silva Corrêa certainly provides a corrective by noting how the "black army" troops were present, and that African soldiers, whatever side they fought on, usually used the same tactics.

Transformation of Fortifications in the Eighteenth Century

The eighteenth century also brought fortification to a new height. In the seventeenth century, infantry on the defensive might dig trenches, such entrenchments were described briefly in Cadornega's account of the Portuguese attack on Mbwila in 1635. Mbwila fell when two Portuguese units attacked the works at two points, breaking through and capturing all the soldiers in between them.³⁶

Perhaps the most famous fortification in African hands was constructed within the unusual rock pillars at Mpungu a Ndongo, in which rocks formed a circular formation with only small gaps between them. These gaps were closed with "trenches and bulwarks," according to Cadornega. Mpungu a Ndongo was the capital of a rival line of Ndongo, founded by Hari a Kiluange against Queen Njinga. In 1671, they revolted and the Portuguese laid siege to it. But the fort was never really tested, it fell when the garrison, understaffed and asleep, failed to prevent soldiers loyal of Portugal from destroying them secretly in the night.³⁷

36 Cadornega, *História* 1: 182-183.

37 Cadornega, *História* 2: 321-323.

The Portuguese, of course, constructed fortification of their own, using European approaches. Their inland bases at Muxima, Ambaca, and Massangano were all fortified, although there are not particularly detailed accounts of their construction, it is quite likely that they had stone walls and bulwarks characteristic of Portuguese building. When Njinga defeated the Portuguese at Kumbi in 1647, she laid siege to them, but even with the support of artillery supplied by her Dutch allies, she was unable to take them. Before heavier guns could be brought up, a Portuguese relief force from Brazil arrived and the Dutch surrendered to them, forcing Njinga to abandon the sieges.³⁸

However, accounts in the late eighteenth century speak of what was apparently a new technique, the *kipaka* (quipaca). The original *kipakas* were “fortified with a stockade of a triple row of stakes with all the thickness and height of the trees, interlaced with branches secured with clay, and earth, and with granaries, and watchmen, from which an immense population stand with impunity... they could not suffer any other harm than that of bombs or heavy artillery.”³⁹ They were first noted in 1764, perhaps in conjunction with the arrival of Lunda armies on the Kwango about that time.

However, they were not specifically ascribed to Lunda, the Holos who had fled from the Lundas are the ones that the Portuguese described in detail. Lunda traditional history notes that one of the normal techniques for waging war in Lunda was to build a substantial fort in an enemy’s land and then use it as a base for attacks, challenging the opponent to take the fort.⁴⁰ A brief account of Lunda written by Correia Leitão, a Portuguese settler dispatched to the Kwango in 1756 to investigate tales of a looming Lunda advance mentioned the building of forts.⁴¹

It is possible that the development of more extensive fortifications is related to the great increase in firearms as the primary missile weapon in the eighteenth

38 Thornton, *West Central Africa*, p. 170.

39 AHU Cx 50, doc. 65 [new numeration Cx. 51, doc. 4685] Souza Coutinho to King, 4 March 1766

40 Thornton, *West Central Africa*, pp. 222-227.

41 Manoel Correia Leitão (Sargento-mor dos moradores do Dande), “Relação e breve sumário da viagem...” fol. 0-10v (on forts in Holo), 13v (in Lunda), in Evá Sebestyén and Jan Vansina, “Angola’s Eastern Hinterland in the 1750s: A Text Edition and Translation of Manoel Correia Leitão’s ‘Voyage’ (1755-1756),” *History in Africa* 26 (1999).

century. Descriptions of fortifications resemble those of fortifications constructed in Europe during the so-called Revolution in Military Affairs and are thus perhaps an African response to the issue of gunpowder weapons.

In any case, the Portuguese launched a major campaign in 1766 to attack the Holos and their allies in Nsoso who specifically had used these techniques. Unable to breach the stockades with artillery fire alone, they resorted to firing burning cannonballs into them, setting them on fire. These created breaches large enough for Portuguese forces to break in and capture them.⁴²

The Mbailundu war revealed a well-developed art of fortification, with a number of features that included bulwarks, covered roads, and trenches. Although it appears as if these were quite different from the fortifications in Holo, Portuguese called them *kipaka* as well.⁴³ Likewise, Pinheiro Lacerda, towards the end of his long expedition from Musulu to Encoge, encountered in early 1794 fortifications at Kina, a Kongo territory. He was surprised, “it is incredible, considering the ignorance of the blacks, to see the fortification that they built in this place: nature has given them a defense in many places, independent of human efforts” such as “great cliffs, which were as flanking bulwarks & flanked by musket fire:” but their own efforts created “curving paths, hidden roads, & barricades, & a Labyrinth of pine trees opposite the main Banza[town],”⁴⁴

West Central Africa thus represents an interesting laboratory for discussion of the general understanding of the Revolution in Military Affairs outside of Europe. The Portuguese presence is vital to this understanding, since their own warfare was influenced by ideas from Europe, but their actual practice drew much from their African neighbors. The fact that West Central Africa was also notable for not having cavalry presents novel scenarios to test theories about eighteenth century warfare elsewhere in the world.

42 AHU Cx 50, doc. 65 [new Cx. 51, doc. 4685] Souza Coutinho to King, 4 March 1766

43 AHU Cx 61, doc. 18, [new numeration Cx 61, doc. 5329] Antonio de Lencastro to King, 1 June 1776, fol. 4.

44 Silva Corrêa, *Historia* 2: 205.

Not ‘A Rabble of Half-Armed Men’: Mughal Infantry in Early Modern South Asia

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Among the first modern scholars to write about the armies of the Mughal Empire was the British civil servant turned historian Robert Orme. In 1782, he published his magnum opus *Historical Fragments of the Mogul Empire, of the Morattoes, and of the English Concerns in Indostan from the year 1659*. Here he argued that the real strength of Mughal armies lay in their cavalry; the infantry was utterly chaotic, poorly trained, and ill-organized. His arguments had a profound influence on the future scholar William Irvine, who published his *The Army of the Indian Moghuls* in 1903. Summarizing Orme’s observations and adding to them his own, Irvine too wrote disparagingly about the infantry of Indian armies. His observations in this respect are worth quoting at length because they can serve as an apt starting point for this chapter. Irvine writes:

the infantry consisted in a multitude of people assembled together without regard to rank or file: some with swords and targets, who could never stand the shock of a body of horse; some bearing matchlocks, which in the best of order can produce but a very uncertain fire: some armed with lances, too long or too weak to be of any service, even if ranged with the utmost regularity of discipline. Little reliance was placed on them. To keep night watches and to plunder defenceless (*sic*) people was their greatest service... the infantry were more *a rabble of half-armed men* than anything else, being chiefly levies brought into the field by petty zamindars, or men belonging to the jungle tribes.¹

The key ideas here are the infantrymen being no more than a disorganized bunch of people, the lack of any administrative apparatus to structure them, their poor training, discipline, and weaponry, their inability to do much more than act

¹ William Irvine, *The Army of the Indian Moghuls, Its Organization and Administration* (Delhi: Low Price Publications (1903) 2004), 161-162. Emphasis mine.

as patrol, and their irregular recruitment at the behest of chieftains as opposed to the state. These ideas serve as the building blocks of the notion that South Asian infantry was no better than 'a rabble of half-armed men'. In a similar vein, Irvine writes elsewhere that during Mughal rule, 'the Indian foot-soldier was little more than a night-watchman, and guardian over baggage, either in camp or on the line of march.'²

These early writings set the tone for our understanding of Mughal warfare as being centered around the cavalry, with infantry – and even artillery – occupying only a marginal position. The voluminous scholarly work on the imperial aristocracy, which mainly comprised the upper echelons of the commanders of the cavalry, reinforced during the second half of the twentieth century this notion about the centrality of the cavalry in the functioning of the empire.³ Most of these interventions, however, did not come from an understanding of the history of war; rather, they were concerned with questions of political economy. Downplaying the importance of firearms in Mughal warfare, Irfan Habib, for instance, notes about Mughal armies that their 'real strength lay in cavalry and it was in battle in the open field, in rapid movements, that they remained invincible...'⁴ This prominence of the cavalry is also visible in the more recent works of Jos Gommans. He characterizes the Mughal Empire as a postnomadic polity and looks upon the ability of the state to mobilise equestrian resources as one of the cornerstones of its success. The infantry and artillery pales in comparison to the cavalry in his characterization of Mughal warfare.⁵

The present chapter challenges this historiographical neglect of – and sometimes outright disdain towards – the infantry of Mughal South Asia. It argues that this wing of the army remained militarily important throughout the sixteenth and seventeenth centuries. Through this empirical study, it seeks to analyse and problematise the long-standing marginalisation of the infantry in the

2 Irvine, *Army of the Great Moghuls*, 57.

3 See for example M. Athar Ali, *The Apparatus of Empire: Awards of Ranks, Offices and Titles to the Mughal Nobility, 1574-1658* (New Delhi: Oxford University Press, 1985).

4 Irfan Habib, *The Agrarian System of Mughal India, 1556-1707* (New Delhi: Oxford University Press, (1963) 1999), 364.

5 Jos Gommans, *Mughal Warfare: Indian Frontiers and High Roads to Empire, 1500-1700* (London and New York: Routledge, 2002); Jos Gommans, 'Warhorse and Post-Nomadic Empire in Asia, c. 1000-1800', *Journal of Global History* 2, no. 1 (2007): 1-21.

historiography of early modern South Asian warfare. The chapter begins by outlining the state of infantry warfare in the fifteenth and early sixteenth centuries, just before the rise of the Mughal Empire. It then traces the emergence of early modern forms of warfare, and with that the proliferation of new forms of infantry – matchlockmen and artillerymen. After this, the chapter investigates the importance of infantrymen, especially the matchlockmen and artillerymen, in Mughal military campaigns. We will look at battles, sieges, and amphibious engagements. Following this, the chapter studies the different kinds of personnel that comprised the infantry in Mughal armies as well as their organisation, pay, and recruitment by the state. It then shows how the proliferation of the matchlock gun not only created an expanding labour market that the empire benefitted by recruiting soldiers from, but how it also enabled communities to rebel against imperial authority. On the basis of these discussions, the final part of the chapter returns to the issue it opens with – the historiographical neglect of and disdain towards Mughal infantry and explains its reasons in terms of certain cultural and intellectual orientations of both modern historians and the Mughal texts they study.

South Asian Infantry on the Eve of Mughal Empire-Building

The two political entities that arguably had the most profound impact on South Asian warfare during the early modern period were the Mughals and the Portuguese. Both arrived in this region around the same time. The Portuguese disembarked at the port of Calicut in modern Kerala in South India in 1498. The Mughals conquered the North Indian cities of Delhi and Agra to establish their dynasty in 1526. Their advent with a new set of military possibilities and requirements produced ripples that engulfed various aspects of warfare, including the military techniques and organisation of the infantry. Before entering that discussion, it is necessary to establish the historical context for these changes. This section discusses the status of infantry warfare in South Asia around the time that these two groups inserted themselves into the world of war of this region. It is good to remember that while there may have been some regional variations, generally footsoldiers fought with projectile weapons like bows and arrows as well as with shock weaponry like clubs, maces, spears, and swords.

Dirk Kolff argues that since at least the early fifteenth century, we find in large parts of Central and North India a tradition of military service among peasant communities. These non-elite Purabiya, Ujjainiya, and Baksariya communities served under warlords like Silahadi, Puran Mal, and Medini Rai. Kolff notes that these leaders were ‘freebooting warlords *par excellence*’, who constantly changed sides as a matter of political pragmatism. The peasant-soldiers formed a part of the fluid military labour market of North India. By virtue of their warrior identity, they claimed the status of being Rajputs (lit. princes).⁶ Till the consolidation and expansion of the Mughal Empire since the mid-sixteenth century, these community-based non-elite infantrymen of peasant stock and their leaders enjoyed a great deal of influence and liberty. They often proved to be decisive for the success and failure of local rulers of Rajasthan, Gujarat, and Malwa. With the emergence of the Mughal Empire, however, much of these peasant-warrior communities got absorbed into the expanding imperial apparatus.⁷ We will return to the question of their community based expertise in a later section. More recently, Ramya Sreenivasan has analyzed the narrative traditions coming out of the political milieu of these warrior communities of the hinterland of North and Central India. She finds a similar emphasis on the idea of service (*naukari*) that Kolff had also highlighted earlier. The three narratives that Sreenivasan studies all express the political ambitions of the warlords of these communities in terms of obtaining a respectable rank at their employer’s court and controlling the women of their domestic households. Building on Kolff’s work, this research throws light on the cultural world of the leaders of the warrior-peasants.⁸

Infantry was a mainstay of the armies of many kingdoms of peninsular India; they were often much more numerous than the cavalry. This was true, for example, of the Vijayanagar Empire – one of the most powerful polities of southern India between the fourteenth and sixteenth centuries. Philip Wagoner

6 This was a marker of identity to which their claim waned over the centuries. Because of various cultural factors, the category came to signify only the more prosperous warrior communities of western India by the nineteenth century. Dirk H.A. Kolff, *Naukar, Rajput and Sepoy: The Ethnohistory of the Military Labour Market in Hindustan, 1450-1850* (Cambridge: Cambridge University Press, 1991), 72-73.

7 Dirk Kolff, *Naukar, Rajput, and Sepoy*, 71-116.

8 Ramya Sreenivasan, ‘Warrior-Tales at Hinterland Courts in North India, c. 1370-1550’, in Francesca Orsini and Samira Sheikh (eds), *After Timur Left: Culture and Circulation in Fifteenth-Century North India* (Delhi: Oxford University Press, 2014), 242-272.

points out that in order to compete with its northern neighbour the Bahamani sultanate, its king Devaraya II overhauled both its cavalry and infantry in the mid-fifteenth century by bringing in Muslim soldiers and military professionals. A later chronicle by Firishta narrates that Muslim trainers taught Hindu soldiers the art of archery. This soon produced a cohort of two thousand Muslim and sixty thousand Hindu foot-archers, in addition to two hundred thousand infantry equipped with shock weapons and another eighty thousand cavalry.⁹ No doubt these numbers are inaccurate; nevertheless, they give us a sense of the kind of investment the Vijayanagar kings made towards raising infantry forces and also how much bigger the latter were compared to the cavalry corps. Even with conscious efforts from the rulers to expand its numbers, the cavalry remained comparatively small, owing probably to how expensive the imported warhorses used as military mounts were.¹⁰

In acknowledgement of this wealth of human resources in the kingdom, a Telugu text titled *Rayavacakamu* from the late sixteenth century characterizes the Vijayanagar king as *narapati* (the lord of men). This is contrasted with the Bahamani sultan of northern Deccan, who the text refers to as *asvapati* (the lord of horses), probably in recognition of the large cavalry armies on which his strength rested. The text designates the king of Orissa as *gajapati* (the lord of elephants) – a reference to the vast number of elephants that his armies commanded. As Carla Sinopoli points out, this expressed the notion of the division of territory and political authority of peninsular India between these three polities and the mutual recognition of the legitimacy of their rulers. But this is also a clear reference to how a contemporary text viewed the main elements of military strength of the three polities. In contrast to the Bahamani sultanate and the kingdom of Orissa, the main strength of Vijayanagar lay in its expansive infantry corps.¹¹

Norman Ziegler points out that before the sixteenth century, Rajput warriors

9 Phillip B. Wagoner, 'India, c. 1200- c. 1500', in Anne Curry and David A. Graff (eds), *The Cambridge History of War*, vol. II: *War and the Medieval World* (Cambridge: Cambridge University Press, 2020), 470-506, see 497-498.

10 The large warhorses used in the Vijayanagar Empire were generally imported *en mass* from West Asia across the Arabian Sea. Nazer Aziz Anjum, 'Horse Trade in Medieval South India', *Proceedings of the Indian History Congress* 73 (2012): 295-303.

11 Carla M. Sinopoli, 'From the Lion Throne: Political and Social Dynamics of the Vijayanagara Empire', *Journal of the Economic and Social History of the Orient* 43, no. 3 (2000): 364-98.

of western India would generally fight on foot. This owed mainly to a logistical difficulty rather than a military preference. As in peninsular India, horses were in short supply in the Rajasthan region too, in this case because of the desert ecology across its large parts. The ones that were available were often not ideal to be used in battle. Ziegler cites Muhnot Nainsi's late seventeenth-century *khyat*, which mentions rulers and their soldiers from the fourteenth and fifteenth centuries fighting mainly on foot. This is a curious case of a socio-political elite serving as infantrymen. Throughout this period, however, there was a strong inclination of the Rajputs warriors to mobilise more horses. To this effect, they often resorted to stealing horses from caravans plying on the main highway connecting the western seaboard of Gujarat with the political centres like Delhi and Agra in North India. Ziegler argues that as some rulers were able to build up their equestrian resources in this way, they launched into increasingly successful military campaigns over an expanding area by the early sixteenth century.¹² While they continued to employ infantry in their armies, the Rajput elite switched to serving on horseback in course of the sixteenth century.

Against this backdrop, the following section discusses the changes that the rise of early modern warfare wrought for the infantry. The rapid proliferation of gunpowder weaponry led to the rise of mainly two groups of soldiers who served on foot – those who used matchlock guns and those who operated the artillery. In this context, we need to understand the transfers of technology to South Asia that facilitated these changes, the new military techniques that precipitated the rise of these new infantrymen, and the tactical roles the latter fulfilled.

Early Modern Warfare and New Forms of Infantry

One of the factors that heralded a new age of warfare in the sixteenth century was the extensive proliferation of firearms – both handguns and artillery. In Europe this triggered a transformation of military techniques and strategy, something that some historians see as a Military Revolution.¹³ Major changes also engulfed

12 Norman P. Ziegler, 'Evolution of the Rathor State of Marwar: Horses, Structural Change and Warfare', in Karine Schomer *et al* (eds) *The Idea of Rajasthan: Explorations in Regional Identity*, Vol. II: *Institutions* (New Delhi: Manohar, American Institute of Indian Studies, 1994), 192-215, see pp. 195-197.

13 Michael Roberts, *The Military Revolution, 1560-1660* (Belfast: Marjory Boyd, 1956); Geof-

other parts of the world, even though they did not always match the trajectories of Europe. In some regions like Japan, the spread of the use of matchlocks left behind that of big cannons; in neighbouring China, on the other hand, the reverse was the case as the Ming deployed artillery to defend its frontiers against nomadic invaders from Central Eurasia.¹⁴ Gunpowder and firearms reached South Asia through various networks. Iqtidar Alam Khan argues that it was the Mongols that carried the knowledge of gunpowder and firearms from China to northwestern India, possibly at the close of the thirteenth century or the beginning of the fourteenth.¹⁵ Sun Laichen points out that Ming military operations in mainland Southeast Asia may also have led to the transmission of Chinese firearms into northeastern India during the fifteenth century.¹⁶ Owing to these networks, firearms became increasingly well-known during this time in different parts of South Asia. In the early sixteenth century, as the Portuguese and the Ottomans fought each other for the hegemony over the Indian Ocean, both of them transmitted the knowledge of firearms widely across the coastal polities of peninsular India.¹⁷ Finally, the Mughals introduced in North India a composite military technique that fused the deployment of handguns and cannons with cavalry.¹⁸

As is well known, it was the Ottomans who developed this composite military technique in eastern Europe in the mid fifteenth century. At its heart lay temporary field fortifications (*wagenburg*, lit. wagon fortress). The Ottomans

frey Parker, *The Military Revolution: Military Innovation and the Rise of the West, 1500-1800* (Cambridge, New York and Melbourne: Cambridge University Press, 1988).

- 14 Kenneth M. Swope, 'Crouching Tigers, Secret Weapons: Military Technology Employed during the Sino-Japanese-Korean War, 1592-1598', *The Journal of Military History* 69, no. 1 (2005): 11-41.
- 15 Iqtidar Alam Khan, 'Coming of Gunpowder to the Islamic World and North India: Spotlight on the Role of the Mongols', *Journal of Asian History* 30, no. 1 (1996): 27-45.
- 16 Sun Laichen, 'Military Technology Transfer from Ming China and the Emergence of Northern Mainland Southeast Asia (c. 1390-1527)', *Journal of Southeast Asian Studies* 34, no. 3 (2003): 495-517.
- 17 Roger Lee de Jesus, 'Gunpowder, Firepower and the Portuguese in the Indian Ocean in the Sixteenth Century', in Pius Malekandathil, Lotika Varadarajan, and Amar Faruqui (eds), *India, the Portuguese and Maritime Interactions* (Delhi: Primus Books, 2019), 220-231; A.C.S. Peacock, 'The Ottoman Empire and the Indian Ocean', *Oxford Research Encyclopedia of Asian History*, 28 Mar. 2018. Accessed 11 Oct. 2025.
- 18 Kenneth Chase, *Firearms: A Global History of Firearms to 1700* (Cambridge: Cambridge University Press, 2003), 131-134; Pratyay Nath, *Climate of Conquest: War, Environment, and Empire in Mughal North India* (New Delhi: Oxford University Press, 2019), 32-36.

learnt about its use probably from their Hungarian neighbours, who seem to have picked it up from the Hussites rebels of Bohemia. In their wars against the Catholic monarchs of central Europe, the Hussites would regularly draw up circular defensive fortifications on battlefields using wagons and stationing archers within them. The Ottomans modified the Hussite wagon fortress and started lining up the wagons in a linear formation in front of their army instead. They positioned their heavy cavalry (meant to deliver shock charge) behind the line of wagons and light cavalry of mounted archers (meant to execute evasive attacks through mounted archery) on the flanks and advance guard. The *wagenburg* allowed them to deploy two types of infantrymen –matchlockmen behind the wagons and artillerymen operating the cannons positioned between the wagons.

The coordinated action of these five elements produced a highly effective battle tactic that helped the Ottomans defeat the Safavids at Chaldiran (1514), the Mamluk at Marj Dabiq (1516), and the Hungarians at Mohács (1526).¹⁹ From the Ottomans, the knowledge of this tactic trickled to their eastern neighbours, the Safavids. They used this tactic themselves to defeat the Uzbeks at the battle of Jam (1528).²⁰ It was Ustad Ali Quli, a Persian gun-maker, and Mustafa Rumi, an Ottoman artilleryman, who brought the knowledge of this combined battle tactic to Zahiruddin Muhammad Babur (founder of the Mughal dynasty, r. 1526-1530) while he was still the ruler of the small principality of Kabul in Afghanistan sometime before 1519. In a few years, the use of this tactic was responsible for the Mughal victories over the Afghans in Panipat (1526) and a Rajput-Afghan coalition in Khanua (1527).²¹ Alongside cavalry maneuvers, the deployment of artillery and matchlocks by Babur's infantry went a long way in producing these landmark victories. The needs for maintaining this battle tactic in the subsequent period was one of the factors that inspired the recruitment of more and more footsoldiers into Mughal armies.

As the Mughal armies were introducing these shifts in the north, other parts of South Asia were also experiencing increasing deployment of both matchlock

19 Chase, *Firearms*, 86-107.

20 Chase, *Firearms*, 117.

21 Stephen F. Dale, *The Garden of the Eight Paradises: Babur and the Culture of Empire in Central Asia, Afghanistan and India (1483-1530)* (Leiden and Boston: Brill, 2004), 327-331, 345-351; Nath, *Climate of Conquest*, 32-35.



Fig. 1. Artillerymen in action at the siege of Ranthambhor (1569). Detail from the painting 'Bullocks dragging siege-guns uphill during the attack on Ranthambhor Fort', from *Akbarnama* (c. 1600), the official biography of Akbar. Source: Wikimedia Commons.

and artillery – and by extension the foot-soldiers who operated them. Starting from the coasts, the matchlock spread fast across peninsular India, transforming the nature of infantry warfare. Here the main agents of change were the Portuguese and, to a limited extent, the Ottomans. Both the demand and visibility of matchlocks and matchlock-bearing infantry rapidly rose in peninsular India since the early sixteenth century. Several scholars point out that the battle of Raichur (1520) between the Bijapur sultanate and the Vijayanagar Empire saw the first large scale deployment of firearms. In the siege of Raichur, the garrison of the Bijapur Sultanate deployed cannons from inside the fortress; the Vijayanagar army benefitted from the strong aim of Portuguese matchlock-bearing marksmen fighting on foot. The Vijayanagar army eventually carried the day. In both manning the cannons and firing the matchlocks, this clash saw the flourish of a new kind of infantrymen.²² Many Ottoman military professionals and engi-

22 V. Narayana Rao, David Shulman and Sanjay Subrahmanyam, 'The Art of War under the

neers also found employment in the sultanates on South Asia's western littoral at a time when the Ottoman Empire was trying to reverse the growing influence of the Portuguese in the Arabian Sea in the early sixteenth century. When the Mughals conquered Gujarat in 1572-73, they discovered Ottoman guns and cannons in coastal forts like Surat.²³

Very soon, firearms proliferated all across peninsular India. A lot of Portuguese soldiers, professionals, and renegades started deserting the official Portuguese mission in Goa and seeking employment among regional polities in pursuit of better pay. Their European guns and skills of marksmanship found them ready employment in these polities. European cannon founders too arrived in increasing numbers and helped disseminate the knowledge of manufacturing cannons among regional states. To increase their purchase, they would run away with matchlocks and cannons from the official Portuguese settlement. Local Indian artisans would create copies of these arms. With the increasing currency of these firearms, the states started employing more and more foot-soldiers to operate these weapons. This contributed to the rise of a new kind of infantry; such footsoldiers augmented the already existing traditional infantry of this region comprising people using shock and projectile weapons. By the early seventeenth century, matchlocks and cannons were being used very widely in both the Tamil and Telugu lands on the eastern seaboard.²⁴ From Vijayanagar in the west to the Nayaka kingdoms in the east, matchlock-bearing Portuguese mercenary infantrymen became a regular feature in regional armies.²⁵ A large number of Portuguese military professionals also tried their luck in building fortune independently by escaping the close control of Goa and flocking to remote, faraway areas. One such enclave was coastal Bengal (in eastern India and

Nayakas', in Jos J.L. Gommans and Dirk H.A. Kolff (eds), *Warfare and Weaponry in South Asia 1000-1800* (New Delhi: Oxford University Press, 2001), 133-152, see 139-141; Richard M. Eaton, "Kiss My Foot" Said the King: Firearms, Diplomacy, and the Battle for Raichur, 1520." *Modern Asian Studies* 43, no. 1 (2009): 289-313; Richard M. Eaton and Phillip B. Wagoner, *Power, Memory, and Architecture: Contested Sites on India's Deccan Plateau, 1300-1600* (New Delhi: Oxford University Press, 2015), pp. 248-251.

23 Nizamuddin Ahmad, *Ṭabaqāt-i Akbarī*, ed. Brajendranath De, 3 vols. (Calcutta: Asiatic Society of Bengal, 1931), vol. II, 249; Abul Fazl, *Akbar-nāma*, ed. Maulawi Abdur Rahim, 3 vols. (Calcutta, Asiatic Society of Bengal, 1873-87), vol. III, 29.

24 Rao, Shulman, and Subrahmanyam, 'The Art of War under the Nayakas', 142.

25 Rao, Shulman, and Subrahmanyam, 'The Art of War under the Nayakas', 144-145.

Bangladesh) and Arakan (in the northwestern Myanmar). Portuguese presence in the southeastern reaches of Bengal is recorded since at least the 1520s. Local polities quickly recognized their expertise in using firearms and naval warfare and started employing many Portuguese renegades and mercenaries.²⁶

To the northeast of Bengal, matchlocks may have reached northeastern parts of India from China during the fifteenth century in course of the military operations of the Ming dynasty in Southeast Asia. When Mughal armies fought with the forces of the Ahom kingdom in Assam in the seventeenth century, the scribes of the former noted how adept at shooting the matchlock Ahom soldiers were.²⁷ Assam is a land of rivers, forests, and hills. It has historically been both unsuitable for breeding horses and unfit for the operation of large cavalry armies. Much of the wars with the Mughals occurred during monsoon-induced floods; this also precluded the use of cavalry. A lot of the fighting would happen either on foot or on boats. Mughal texts also record the Ahom armies deploying cannons, which must have been operated by soldiers serving on foot. In these conditions, Ahom infantrymen, artillerymen, and matchlockmen flourished.²⁸

Against this backdrop, the following section takes a deep dive into the world of the infantry that gradually emerged in Mughal armies. We note the role of infantrymen in three different spheres of military action – battles, sieges, and amphibious engagements. We will also note how in many of these cases, they emerged in greater importance than the cavalry as well as how older forms of infantry continued to serve during this period alongside the matchlockmen and artillerymen.

Infantry in the Service of the Mughal Empire

Since the days of Babur, Mughal battle tactics underwent many changes. In course of the long reign of the third emperor Jalaluddin Muhammad Akbar (r.

26 Radhika Chadha, 'Merchants, Renegades and Padres: Portuguese Presence in Bengal in the Sixteenth and Seventeenth Centuries', Unpublished Ph.D. thesis, submitted to Jawaharlal Nehru University, New Delhi, 2005, pp. 87, 91-92; Tapan Raychaudhuri, *Bengal under Akbar and Jahangir: An Introductory Study in Social History*, Delhi: Munshiram Manoharlal, 1969, pp. 237-253.

27 Shihabuddin Talish, *Tarikh-i Aasham*, trans. Mazhar Asif (Guwahati: Department of Historical and Antiquarian Studies, 2009), 77.

28 Nath, *Climate of Conquest*, 67-71.

1556-1605), military techniques became increasingly sedentarized. This entailed a gradual marginalisation of light cavalry, an increased deployment of war-elephants, and a growing emphasis on close combat by heavy cavalry.²⁹ The importance of matchlockmen on the field endured through these changes. Alongside elephants and artillery, matchlock-bearing infantry lent crucial support to the cavalry, especially in big pitched battles. There are instances where infantry came to the rescue of the cavalry. When the Mughals invaded Balkh in 1646, their Uzbek adversaries deployed highly mobile mounted archers against them. They attacked the Mughal armies at will during their marches; when Mughal heavy cavalry would give them chase, they would withdraw, using the classic Central Eurasian military maneuver of feigned retreat. They would return soon afterward to resume their attacks by showering arrows from a distance. Unable to close in on them with heavy cavalry, the Mughals turned to their matchlockmen to repel the enemy from afar.³⁰ Alongside this, Mughal armies continued to benefit from the expertise of artillerymen operating cannons in big pitched battles.

Yet, battles were only one form of military engagement. They were most frequent in the flat open plains of the river basins of North India. Able to utilise the flat open spaces to exhibit rapid movements, the cavalry played an important role in such clashes here. In other regions, imperial armies had to engage their adversaries in other forms of engagement. These included siege warfare and amphibious clashes. The importance of matchlock-bearing infantry and foot-archers heightened in these forms, mainly because of the physical separation of armies. In sieges for instance, the cavalry – central to Mughal battle tactic on the open field – was reduced to a marginal role. In contrast, archers and matchlockmen became far more important. Most rampant among the hills and plateaus of western, central, and southern India, Mughal sieges would be long-drawn affairs that would begin by circumvallation of forts, often followed by digging mines and saps. As armies would invest the forts in this way for weeks, even months, the projectile-throwing infantry would continue to engage soldiers of the garrison from afar. Matchlockmen could be very effective in such cases, especially when they would be positioned on elevations. Mughals understood the strategic value of this well and deployed their gunners repeatedly on top of hills or siege

²⁹ Nath, *Climate of Conquest*, 36-38.

³⁰ Nath, *Climate of Conquest*, 103.

towers facing forts.³¹

Since rugged terrain and the relatively inaccessible location of forts often precluded the transport and deployment of cannons, artillerymen had a more circumscribed role in many Mughal sieges in western, central, and southern India. Wherever deployment was possible, they aided the matchlockmen in fighting off the garrison. However, because of logistical difficulties and technological challenges I have discussed elsewhere, artillery fire decided the fate of very few sieges.³² On the other hand, from the shelter of the ramparts, matchlockmen, archers, and artillerymen of the garrison also played a crucial role in defending forts. They contributed to the proceedings by picking off members of the besiegers using the height and protection offered by the fort. Till the time hand to hand combat would break out either as a result of a sally from or storm of the fort, projectile-throwing infantry remained the main agents of attacking the adversary.³³ Established in the sixteenth century, these trends continued through the seventeenth. When emperor Shah Jahan (r. 1628-1658) deployed an army under his son Murad Bakhsh in 1646 to conquer Balkh – a campaign that was expected to entail several sieges, it comprised fifty thousand cavalrymen and ten thousand infantrymen. The latter included foot-soldiers (*piyada*), artillerymen (*top-andaz*), matchlockmen (*tufang-chi*), and rocketeers (*ban-dar*).³⁴ Three years later, a similar number of matchlockmen accompanied the army that travelled to Qandahar to wrest the fort from its Persian occupants.³⁵

31 For an example of matchlockmen being stationed on a neighbouring hill, see the siege of Awadh (1567). *Akbar-nāma*, ed. Rahim, vol. II, 298. For an instance of matchlockmen being stationed on an artificial siege tower, see the siege of Surat (1572–73). *Akbar-nāma*, ed. Rahim, vol. III, 28.

32 Nath, *Climate of Conquest*, 43–45.

33 Richard Eaton and Phillip Wagoner argue that while gunpowder artillery of besiegers did not make much impression on the forts of the Deccan Plateau, local polities modified the fortress architecture nonetheless to help the garrisons benefit from the effective deployment artillery for the defence of the forts. Richard M. Eaton and Philip B. Wagoner, 'Warfare on the Deccan Plateau, 1450-1600: A Military Revolution in Early Modern India?', *Journal of World History* 25, no. 1 (2014): 5–50.

34 Abdul Hamid Lahori, *Bādshāh-nāma*, eds. Maulawis Kabiruddin Ahmad and Abdul Rahim, 2 vols. (Calcutta: Asiatic Society of Bengal, 1867–1868), vol. II, 482–484; Muhammad Salih Kambu, *ʿAmal-i Šālih*, ed. Ghulam Yazdani, 3 vols. (Calcutta: Asiatic Society of Bengal, 1923), vol. II, 473–478.

35 Inayat Khan, *Mulakhkhaṣ-i Shāhjahān-nāma*, ed. Jameel-ur-Rehman (New Delhi: Embassy of Islamic Republic of Iran, 2009), 491.



Fig. 2. Archers and matchlockmen in action on boats in a riverine engagement on the Ganga (1565); two heavy infantrymen waiting for close combat on the right corner of the lower boat. Detail from the painting ‘Battle scene with boats on the Ganges, 1565’, from *Akbarnama* (c. 1600), the official biography of Akbar. Source: Wikimedia Commons.

Amphibious campaigns presented another form of warfare where the infantry played a central role. The Mughals engaged in such warfare mainly in Sind in the west, and Bengal and Assam in the east – all areas with major river systems. Just like in sieges, armies fighting each other in such campaigns would have a physical separation owing to the presence of waterbodies. Since the riverine nature of the physical geography and sometimes the presence of forests made deploying cavalrymen difficult, infantry frequently outnumbered cavalry in campaigns. During campaigns, the fleet would carry soldiers down the river in boats, while land armies would march along the banks of the river. When a

battle would break out, both the wings would come in the other's aid, often from a distance. Under such circumstances, projectile-throwing infantrymen emerged in importance. These included matchlockmen, archers, and rocketeers. Matchlockmen find a lot of mention in contemporary texts in particular.³⁶

A case in point are the military campaigns directed at conquering eastern Bengal between 1608 and 1612. An eye-witness account provides us some numbers for the matchlockmen deployed against the various chieftains the Mughals fought. It mentions that alongside four thousand cavalry and fifty elephants, three thousand matchlockmen took part in a campaign against Raja Ananta Manik.³⁷ Five thousand participated in the campaign against Khwaja Usman of Sylhet.³⁸ Another five thousand accompanied the three hundred war-boats and artillery sent against Raja Pratapaditya of Jessore.³⁹ The army sent to counter an invasion by the Arakanese kingdom of northern Myanmar included four thousand matchlockmen alongside two thousand cavalymen.⁴⁰ Finally, three thousand matchlockmen accompanied three elephants and two hundred cavalymen on a counter-insurgency operation in Kuch Bihar in North Bengal.⁴¹ These figures are undoubtedly rough estimates; even so, they give us a sense of the important place matchlockmen held in Mughal campaigns in this theatre. In cases where the boats would also carry cannons on them, artillerymen too swung into action. Riverine transport facilitated the moving around of cannons, which were difficult to transport overland elsewhere because of their heavy weight. So riverine theatres of war saw the deployment of a great amount of artillery and artillerymen than many other parts of South Asia. In the extensive riverine campaigns in eastern and northeastern India in particular, it was the work of these variety of infantrymen that drove the engine of territorial expansion.⁴²

While matchlockmen are the footsoldiers we have most information about, we know far less about artillerymen. We have already noted the presence of

36 Nath, *Climate of Conquest*, 60-63.

37 Mirza Nathan, *Bahāristān-i Ghā'ibī*, JS 60-62, Jadunath Sarkar Collection, National Library, Kolkata, JS60: 40b.

38 Nathan, *Bahāristān-i Ghā'ibī*, JS60: 42a.

39 Nathan, *Bahāristān-i Ghā'ibī*, JS60: 49b.

40 Nathan, *Bahāristān-i Ghā'ibī*, JS61: 167a.

41 Nathan, *Bahāristān-i Ghā'ibī*, JS61: 169a.

42 Nath, *Climate of Conquest*, 62-63, 71.

Mustafa Rumi in Babur's army. He ostensibly taught the Mughals the Ottoman way of deploying artillery and wagons together in battles. In the sixteenth century, we find the presence of several Ottoman military professionals in the service of coastal polities like Gujarat alongside the Mughal Empire. One example of this is the Ottoman gunner Rumi Khan, the erstwhile commander of the artillery of the Gujarat Sultanate. Humayun (r. 1530-1540, 1555-1556) wooed him away during his invasion of the littoral in the early 1530s.⁴³ The Mughals welcomed him with the equivalent rank of Mir Atish.⁴⁴ He played a crucial role in the Mughal siege of Chunar in 1538, but soon became a victim of court intrigues.⁴⁵ This presence of Ottoman military professionals in South Asia was a part of the West Asia dynasties' ambitions in the Indian Ocean world in the sixteenth century.⁴⁶

Compared to this visibility of Ottoman military professionals in the sixteenth century, in the seventeenth it is European gunners who became increasingly prominent. One Mughal commander Mirza Nathan, for example, notes the presence of one hundred and forty 'Firingis' (a shorthand for 'European') in a Mughal army sent for the suppression of an insurrection in Koch Bihar in North Bengal.⁴⁷ For the seventeenth century, we have several references to the presence of European artillerymen. The French merchant Jean-Baptiste Tavernier, who visited the Mughal Empire during the reign of emperor Shah Jahan (r. 1628-1658), observed that most of the Mughal artillerymen he encountered in the Malwa were Muslims, 'with the exception of the chief gunners, who were Franks, - French, English, and Dutch'.⁴⁸ Some years later, the French physician François Bernier noted the presence Portuguese, English, Dutch, German and

43 *Akbar-nāma*, ed. Rahim, vol. I, 131-133.

44 *Akbar-nāma*, ed. Rahim, vol. I, 151.

45 Rumi Khan was poisoned immediately after the Mughal occupation of Chunar. *Akbar-nāma*, ed. Rahim, vol. I, 151.

46 Giancarlo Casale, *The Ottoman Age of Exploration* (New York: Oxford University Press, 2010), 84-116.

47 Although Nathan does not explicitly mention the nature of employment of these Europeans, and all the sentence says is '*yak šad chahal nafar-i firangī*', based on the numerous other references by his text to Europeans operating mainly as matchlockmen in Bengal and Assam around this time, one could surmise that these firangis must also have either been matchlockmen, or attached to the artillery in some other way. *Baharistan*, JS62, folio 276a.

48 Jean-Baptiste Tavernier, *Travels in India*, trans. V. Ball, 2 volumes (London and New York: Macmillan and Company, 1889), vol. I, p. 59.

French artillerymen in emperor Aurangzeb's (r. 1658-1707) armies.⁴⁹ The endurance of this tendency of employing gunners from different parts of Europe is attested by what the Italian traveler Giovanni Careri wrote about Mughal gunners in the 1690s: 'All this artillery, especially the heavy, is under the direction of Franks, or Christian Gunners [sic], who have extra-ordinary pay; especially the Portuguese, English, Dutch, Germans, and French, who go from Goa, or run away from aboard Ships (*sic*).'⁵⁰

Proceeding from here, the following section investigates the organizational aspects of the Mughal infantry. How did the Mughal state categorize its foot-soldiers? What sort of units were they organized in and who commanded them? What do we know about the methods of recruiting them? These are some of the questions we explore.

Organisation, Pay, and Recruitment of Mughal Infantry

In different parts of the early modern world, the advent of firearms benefitted the social standing of the infantrymen using them. This was true for matchlockmen in western Europe as well as the janissaries in the Ottoman Empire. Their growing importance in the military domain aided their rise in social and political status. In Europe, they successfully challenged the importance of the mounted aristocracy on the battlefield and their status in society.⁵¹ In the Ottoman Empire, the janissaries emerged as a counterpoint to the cavalry⁵², both in warfare and politics. But the situation in early modern South Asia was quite different. As we saw in the last section, the Mughal Empire employed large numbers of infantrymen who played vital roles in war and conquest. Yet, neither did this lead to a marginalisation of the cavalry in set piece battles, nor did it cause the social or political empowerment of the people who served as footsoldiers.⁵³

49 Francois Bernier, *Bernier's Travels in the Mughal Empire, A.D. 1656-1668*, trans. Archibald Constable (Westminster: Archibald Constable and Company, 1891), 217.

50 M. De Thevenot and John Francis Gemelli Careri, *Indian Travels of Thevenot and Careri*, trans. Surendranath Sen (New Delhi: The National Archives of India, 1949), 244.

51 Clifford J. Rogers, 'The Military Revolutions of the Hundred Years' War', *The Journal of Military History* 57, no. 2 (1993): 241-278.

52 David Nicolle, *The Janissaries*, Osprey Elite Series (London: Osprey Publishing, 1997).

53 Douglas E. Streusand, *Islamic Gunpowder Empires: Ottomans, Safavids, and Mughals* (Boulder: Westview Press, 2011), 292.

Mughal documents present a picture of extremely efficient organisation of the infantrymen. *Ā'īn-i Akbarī*, an administrative compendium compiled at the close of the sixteenth century by the Mughal ideologue Abul Fazl, devotes an entire section to this wing of the army. From its usage, it appears that the Mughal category of *piyad-gan* (lit. footsoldier) was an umbrella term that comprised a variety of people including guards, soldiers, wrestlers, and even logistical workers.⁵⁴ What united this wide range of participants in the military world was that in contrast to the soldiers who were mounted on horses (*suwars*), they served on foot. The other category that appears in Mughal texts is *ahsham* (sing. *hasham*). Irvine points out that this too was a blanket category that captured a wide variety of people operating on foot in the domain of war. They included the common infantry, artillerymen, guards, attendants, and even retainers, servants, and militiamen.⁵⁵ *Ā'īn-i Akbarī* mentions the various categories into which these foot-soldiers were divided and the details of pay that were based on these divisions.

Abul Fazl refers to foot-archers as *dakhili* troops. This means that the state would hire them directly and then transfer them to individual commanders (sing. *mansabdar*). The archers would receive salaries between 100 and 120 *dams*. The commanders of every unit of 10 archers (sing. *Mir-dah*) would be paid between 120 and 180 *dams*. The text further classifies the *Mir-dahs* into five grades, with salaries of 120, 130, 140, 160 and 200 *dams* respectively.⁵⁶ Palace guards were divided into six grades depending on their skills and ranks. They received 100 *dams*, 110 *dams*, 120 *dams*, 140 *dams*, 180 and 200 *dams* respectively.⁵⁷ The text also mentions *shamsher-baz* (lit. sword-player), who seem to have been the infantrymen wielding swords and other shock weaponry. These included the *Banais*, who wielded long swords; the *Yak-hat*, who used only one hand in combat; the *Bankulis*, who used bent swords; some from the south, who would carry shields big enough to hide a horseman; some others who used much smaller

54 I have analyzed the role of logistical workers in Mughal armies elsewhere. Pratyay Nath, 'War and the Non-Elite: Towards a People's History of the Mughal Empire', *The Medieval History Journal* 25, no. 1 (2022): 127-158; Pratyay Nath, 'What is Military Labour? War, Logistics, and the Mughals in Early Modern South Asia', *War in History* 28, no. 4 (2022): 736-754. In the present chapter, I keep the focus only on footsoldiers.

55 Irvine, *The Army of the Indian Moghuls*, 160.

56 Abul Fazl, *Ā'īn-i Akbarī*, ed. H. Blochmann, 3 vols. (Calcutta: Asiatic Society of Bengal, 1869-1872), vol. I: 188

57 *Ā'īn-i Akbarī*, ed. Blochmann, vol. I: 188

shields, and so on. They were grouped into units of one hundred under the command of a Sadi (lit. centurion). The latter enjoyed the status of an independent trooper (*ahadi*). Abul Fazl says that their pay ranged between 80 and 600 *dams*. Aside from soldiers, the category of *piyad-gan* also included wrestlers, who were an important part of the courtly milieu and contributed to the martial culture at the court. Abul Fazl notes that these wrestlers came from various regions and received pay ranging from 70 to 450 *dams*.⁵⁸ Curiously, the text includes even logistical workers under the category of *piyad-gan*. For, instance, it mentions the several thousand *kahars* who were in imperial employment. They were responsible for carrying load and received payments ranging between 120 and 160 *dams*. Their leader (*sar-i guroh*) was paid between 384 and 192 *dams*.⁵⁹

Abul Fazl pays special attention to the matchlockmen of the imperial armies. He mentions that the emperor had 12,000 matchlockmen in his employment at the close of the sixteenth century.⁶⁰ He notes that they were divided into five classes, and that each class was further divided into three groups. Salaries were 250 *dams*, 240 *dams* and 230 *dams* respectively in the first class, 220 *dams*, 210 *dams* and 200 *dams* in the second, 190 *dams*, 180 *dams* and 170 *dams* in the third, 160 *dams*, 150 *dams* and 140 *dams* in the fourth, and 130 *dams*, 120 *dams* and 110 *dams* in the fifth class.⁶¹ They were commanded by officers, whom the state divided into four classes. Depending on their rank, their salaries were 260 *dams*, 270 *dams*, 280 *dams*, and 300 *dams* respectively. Some of the matchlockmen had *dakhili* status and received a pay of 140 *dams*.⁶²

As for the artillerymen, pay could be higher if they were migrants from Europe. These migrant military professionals acted as crucial links between South Asia and the outside world, through which the latest technology and knowhow would stream in. Since their skills were highly coveted, it is likely that they enjoyed a higher pay than Indian artillerymen. But it is possible that over time, the latter learnt many of the skills from their European counterparts and were still willing to work for lower pay. Bernier seems to hint at this when we wrote in the

58 *Ā'in-i Akbarī*, ed. Blochmann, vol. I: 189

59 *Ā'in-i Akbarī*, ed. Blochmann, vol. I: 190

60 *Ā'in-i Akbarī*, ed. Blochmann, vol. I: 188.

61 *Ā'in-i Akbarī*, ed. Blochmann, vol. I: 188.

62 *Ā'in-i Akbarī*, ed. Blochmann, vol. I: 190.

mid seventeenth century: 'Formerly, when the Mogols were little skilled in the management of artillery, the pay of the Europeans was more liberal, and there are still some remaining who receive two hundred roupies a month; but now the King [Aurangzeb] admits them with difficulty into the service, and limits their pay to thirty-two roupies [sic].'⁶³

These details support the arguments of Dirk Kolff and Jos Gommans about the existence of an extensive military labour market in North and Central India throughout what we now call the early modern period. It involved military participants with a variety of skills and expertise. Many of them were native to this region, whereas others traveled from distant lands. Sometimes, people from certain areas would be associated with specific skills. The case of the Mewatis, whom Abul Fazl describes as good spies and messengers, is a case in point.⁶⁴ Similarly, *kahārs* from Bengal and the Deccan were considered to be superior to the rest.⁶⁵ These various military participants comprised a fluid labour market where they vied with each other for the patronage of the various states.

The level of planning and organisation is reflected in the way they were divided variously into groups of ten and hundred, to be commanded by a Mir-dah and a Sadi respectively. The level of differentiation among these combatants and commanders is also reflected in the differential pay they received based on their ranks and skills. We have to bear in mind that more than recording the state of affairs in their exact detail, *Ā'in-i Akbari* provides an idealized image of the functioning of the empire at the close of the sixteenth century. As such, it is difficult to tell how much of these regulations laid down in the were implemented in reality. But the very formulation of this elaborate classificatory regime and the determination of pay on its basis betrays a deep interest of the state in governing the infantry in an efficient manner and making their functioning systematic.⁶⁶ This contradicts the image of a ragtag infantry comprising unruly camp followers that Robert Orme or William Irvine portrayed in their works. We will return to this issue in the final part of this chapter.

63 *Bernier's Travels in the Mughal Empire*, trans. Constable, 217.

64 *Ā'in-i Akbarī*, ed. Blochmann, vol. I: 188–89

65 *Ā'in-i Akbarī*, ed. Blochmann, vol. I: 190.

66 The *maṣābdārī* corps—meant primarily for the cavalry—was built on similar, but heightened, concerns for classification and organisation of military labour. Gommans, *Mughal Warfare*, 81–8.



Fig. 3. Mughal foot-archers, matchlockmen, and heavy infantry gather to storm the fort of Chitor (1567). Detail from the painting 'Akbar shoots Jaimal at the siege of Chitor', from *Akbarnama* (c. 1600), the official biography of Akbar. Source: Wikimedia Commons.

We know far less about how exactly these infantrymen were recruited into Mughal armies. Kolff argues that in the fifteenth and sixteenth centuries, peasant-warriors were mobilised and led by warlords with strong local and communitarian ties. Medini Rai, Silahadi, and Puran Mal are all examples of this trend.⁶⁷ However, Kolff suggests that in the subsequent centuries, the authority

⁶⁷ Kolff, *Naukar, Rajput and Sepoy*, 85–116.

of such warlords waned. Independent political entrepreneurs and jobber-commanders (sing. *jamadar*) replaced them as recruiting agents. They mediated the relations between the peasant-warrior communities and various states, most of all, the Mughal Empire.⁶⁸ These middlemen had a great deal of say in the recruitment of some soldiers and the denial of service to the others. Hence, Kolff argues, the infantrymen owed much more loyalty to them than the states that actually hired them.⁶⁹ Mughal documents reveal the workings of some of these middlemen. In early seventeenth-century Bengal, soldiers employed in the imperial artillery were led by *sardars* (leaders). One seventeenth-century account mentions these *sardars* negotiating with the state the pay of the artillerymen.⁷⁰ These *sardars* seem to have been similar to the *jamadars* that Kolff mentions.⁷¹

Let us now turn to the social world of the personnel who served in the Mughal infantry. We will look into their social backgrounds, the environmental peculiarities that contributed to the proliferation of the matchlock gun among them, and the ways in which this proliferation also helped some of their communities resist imperial authority.

Social Composition, Ecological Factors, and Armed Resistance

Dirk Kolff's work brings out that the infantrymen of early modern South Asia largely came from peasant communities. Many of them were farmers who worked the fields during summer and monsoon, and served in armies as mercenary soldiers during the winter – traditionally the lean season of agriculture – to earn some extra money. As mentioned earlier, these peasant-soldiers would usually cluster around warlords with ties to these communities and serve at their behest in the armies of kingdoms. They would fight either with shock weapons or as foot-archers. As matchlocks proliferated, many of these communities learnt to use this new technology in course of the sixteenth century and began to

68 Dirk H.A. Kolff, 'Peasants Fighting for a Living in Early Modern North India', in Erik-Jan Zürcher (ed.), *Fighting for a Living: A Comparative History of Military Labour 1500-2000* (Amsterdam: Amsterdam University Press, 2013), 243-265, see p. 248; Naukar, Rajput and Sepoy: 169-76.

69 Kolff, 'Peasants Fighting for a Living', 255.

70 Nathan, *Bahāristān-i Ghā'ibī*, JS60: 50a.

71 Kolff, 'Peasants Fighting for a Living', 246.

serve as matchlock infantry. In most other parts of the world, including Europe and the Ottoman Empire, there was a centralizing tendency to the production and distribution of firearms. The state would hire soldiers and equip them with these weapons. However, the situation was quite different in early modern South Asia. Here, peasants brought their own guns to battle.

The reasons behind this takes us into the intersection of social processes and ecological factors. Unlike many other regions, the North Indian peasantry had easy access to both saltpetre and iron – the key raw materials for the manufacture of firearms – as well as to excellent blacksmiths skilled at making guns. The basic ingredient of saltpetre was nitre – a nitrate of sodium or potassium. The vast farming communities of the Gangetic Basin kept large numbers of cattle, which in turn would produce huge quantities of excreta. Much of this nitrogen-rich excreta would go into the soil as a natural fertilizer. The heat and humidity that characterize the climate of this region for the better part of the year would facilitate the decomposition of this excreta in soil and produce nitre. The peasant communities would collect and process this nitre to make gunpowder.⁷²

Iron was not difficult to find either. As Asha Shukla Choubey points out, the Chhota Nagpur Plateau area near the Gangetic Basin had iron ores that have traditionally been mined by local communities for the metal. The entire region, especially the Singbhum area, served as a major source of iron throughout the early modern period right down to the eighteenth century. From here, iron was exported to Bihar and Bengal even during the early colonial times. Choubey shows how this iron mining encouraged the emergence of a network of blacksmiths and other traders in the area, who would process the iron ore, manufacture articles out of that metal, and spread them across a wide region through commerce. These articles prominently featured firearms. Choubey points out that towns like Monghyr functioned as prominent centres for the production of metalworks, especially guns, during the seventeenth and eighteenth centuries.⁷³

72 Brenda J. Buchanan, 'Saltpetre: A Commodity of Empire', in Buchanan (ed.), *Gunpowder, Explosives and the State* (London: Ashgate, 2006), 67–89, see 78–81. Also see Gommans, *Mughal Warfare*, 149–51.

73 Choubey points out that its reputation as a major weapon-producing centre even earned Monghyr the title 'Birmingham of the East' in English circles. Asha Shukla Choubey, 'Technology and Culture among the Iron-Workers of Bihar during the Seventeenth and Eighteenth Centuries', *The Medieval History Journal* 6, no. 1 (2003): 75–109.

Because of this easy availability of iron alongside that of gunpowder, village blacksmiths started producing these weapons widely for the use of the peasant-soldier communities. This is how the early modern period saw the proliferation of firearms across much of rural North and Central India. Communities that already had a tradition of mercenary soldiery going back to earlier times embraced these new weapons wholeheartedly. The Ujjainiyas, Baksariyas, and Purbiyas, whom Kolff spots in the employment of various kingdoms of western and central India during the fifteenth and early sixteenth centuries,⁷⁴ graduated from using bows and arrows to using matchlocks. As the Mughal Empire expanded into these regions in course of the second half of the sixteenth century, these communities started serving as matchlockmen, archers, and other forms of infantry in the imperial armies. Kolff highlights that these communities were indicated as Rajputs.⁷⁵ This is attested by Niccolao Manucci, who noted in the mid seventeenth century that the infantry of the Mughal armies largely comprised peasant-Rajput soldiers from the Gangetic Basin.⁷⁶ Their work for the armies of the empire rested on the notion of service (*naukari*) to their master, something that had already emerged before the advent of the Mughals.

No doubt the Mughal Empire benefitted from employing these armed peasants in its own ranks. As noted earlier, these soldiers aided Mughal military campaigns, and in turn, military conquests. However, this may not entirely have been voluntary for the state. When the Mughals thrust themselves into South Asia, the thriving military labour market, comprising large populations of armed peasants, was already there. Many of them served the regional polities of South Asia – the very ones the Mughals needed to defeat in order to extend their authority. Disarming this vast population and trying to monopolize the means of violence under such circumstances would have been impossible. A better option for the Mughals must have been to attract these communities into their own

74 Kolff, *Naukar, Rajput and Sepoy*, 71–116.

75 Kolff suggests that this category came to be identified only with the more elite warrior communities of western India by the nineteenth century. This owed in part to the own social dynamic of these communities and in part to colonial ethnography, which deemed these communities as the original elite warrior groups of South Asia. In contrast, the non-elite peasant-soldier communities of the Gangetic Basin came to be seen as ‘spurious Rajputs’. Kolff, *Naukar, Rajput and Sepoy*, 72–73.

76 Niccolao Manucci, *Storia do Mogor*, trans. William Irvine, 4 vols. (Delhi: Low Price Publications, 2005), vol. II, 431–32; Kolff, *Naukar, Rajput and Sepoy*: 117–58.



Fig. 4. Mughal foot-archers, matchlockmen, and footsoldiers with axes and swords accompanying the cavalry during an expedition in Bihar (1574). Detail from the double-page painting 'Siege of Hajipur by the Mughal general Muzaffar Khan', from *Ak-barnama* (c. 1600), the official biography of Akbar. Source: Wikimedia Commons.

armies and channelize their labour to their own imperial project. As the Mughal state emerged as a good employer, more and more of these armed peasants flocked towards it within the dynamic military labour market.

Douglas Streusand argues that the aside from their active involvement, even the mere existence of the armed peasants as potential footsoldiers moulded the

trajectories of the Mughal administration. He argues that while the Ottoman state would assign individual villages to individual cavalymen as their revenue assignment (*tahrir-timar*), this was not possible in North India because the armed nature of the peasantry threatened orderly revenue collection. This might have been one of the factors why the Mughal state started assigning a group of villages to the commanders of cavalry contingents as *jagir*. The hope was that this contingent would be sufficient to put down the potential resistance by armed peasants against revenue collection.⁷⁷

In the complex military labour market of early modern South Asia, we also find other communities that served as footsoldiers alongside armed peasants. One such group were warrior ascetics – *yogis*, *sannyasis*, and *bairagis*. Akbar's army had a brush with them while passing through the North Indian town of Thanesar in 1567. He found a group of *yogis* and *sannyasis* quarrelling with each other on the bank of a reservoir. The quarrel eventually led to a fight. Seeing himself responsible for delivering justice, the emperor ordered his soldiers to fight on the side of the *sannyasis*, who were fewer in number than the *yogis*. With Mughal aid, the *sannyasis* emerged victorious.⁷⁸ A double-folio painting of the incident, completed some three decades later at the imperial studio, shows a large number of armed ascetics at each other's throats. They are variously clad in loincloth, tiger skin, and *angavastra*. Some sport long beards, some dreadlocks, and generally long locks of hair. They wield swords, spears, tridents, discs, axes, and bows and arrows. The ascetics were clearly already armed when the fight broke out. This reveals an overlap between martial culture and religious culture in early modern South Asia, something that several other scholars have noted in the past.⁷⁹ It is not certain if the Mughals ever directly employed such

77 Douglas E. Streusand, *The Formation of the Mughal Empire* (New Delhi: Oxford University Press, 1989), 70-71.

78 *Ṭabaqāt-i Akbarī*, ed. De, vol. II, 207-208.

79 J.N. Farquhar, 'The Fighting Ascetics of India', *Bulletin of the John Rylands Library* 9 (1925): 431-452; W.G. Orr, 'Armed Religious Ascetics in Northern India', *Bulletin of the John Rylands Library* 24, no. 1 (1940): 81-100; Bernard S. Cohn, 'The Role of Gosains in the Economy of Eighteenth and Nineteenth Century Upper India', *Indian Economic and Social History Review* 1 (1964): 175-182; Dirk Kolff, 'Sannyasi Trader-Soldiers', *Indian Economic and Social History Review* 8, no. 2 (1971): 213-218; David Lorenzen, 'Warrior Ascetics in Indian History', *Journal of American Oriental Society* 98, no. 1 (1978): 61-75. The most comprehensive work on the subject so far is William Pinch, *Warrior Ascetics and Indian Empires* (Cam-

warrior ascetics. By the late seventeenth century, such groups started hiring their services out to different polities. In the eighteenth century, with the fragmentation of Mughal authority, the rise of different competing regional states resulted in the increasing demand for soldiers. In this heightened dynamism of the military labour market, these ascetics became increasingly active as mercenary infantrymen. Thus, we find a group of Ramanandi saints in military service of Sawai Jai Singh of Amber in early eighteenth century.⁸⁰ Similarly, a group of sannyasis of the Giri order were in employment of the Marathas.⁸¹

Finally, it is important to remember that in South Asia, the matchlock in the hands of the footsoldiers was not just a tool of centralization or territorial expansion for the Mughal Empire; it also repeatedly emerged as a means for peasant communities to resist imperial authority. Some of these communities served regional polities. Mughal armies had to negotiate these infantrymen in the course of their military campaigns. But more importantly, the matchlock in the countryside became a weapon for rural insurgents, most of whom would fight on foot. Iqtidar Alam Khan argues that these communities often learnt the use of matchlocks as a means of resisting Mughal officials and troops. In the northwest of the empire, the Sikhs and the Baluchis are two such examples. By early seventeenth century, the matchlock also spread among the upper strata of rural society, whose socio-economic standing improved because of their participation in the Mughal Empire.⁸² Several new communities like the Bhadurias and Bahelias, all specializing in the use of matchlocks on foot, emerged in importance by the late seventeenth century. Their skill with the matchlocks helped them carve out a political space for themselves. The Baksariyas, with their long-standing expertise with guns, were the largest social group serving in Mughal armies as matchlockmen and foot-archers during Aurangzeb's reign in the second half of the seventeenth century.⁸³ This was one major example of

bridge: Cambridge University Press, 2006).

80 Orr, 'Armed Religious Ascetics', 89-90.

81 Orr, 'Armed Religious Ascetics', 91.

82 Iqtidar Alam Khan, *Gunpowder and Firearms: Warfare in Medieval India* (New Delhi: Oxford University Press, 2004), 164-90.

83 Iqtidar Alam Khan, 'Muskets in the Mawas: Instruments of Peasant Resistance', in K.N. Panikkar, T.J. Byres, and Utsa Patnaik (eds), *The Making of History: Essays Presented to Irfan Habib* (London: Anthem South Asia Studies, 2002), 81-103; Khan, *Gunpowder and Fire-*

the prosperity of a community of infantrymen through centuries based on their expertise as military mercenaries. By the turn of the century, the matchlock had percolated to even the lower strata of the rural population across vast regions of North India.⁸⁴

This parallels some developments in South India. Sanjay Subrahmanyam draws our attention to how in the Nayaka polity, warriors from the upper castes chose to use shock weapons like the lance and the sword even after the dissemination of firearms because of cultural preferences. In contrast, forest-dwelling communities like the Bedas and Boyas, who occupied much lower positions in the caste hierarchy, freely used firearms. This may have contributed to their upward social mobility in course of the early modern period. Other groups like Marava, Kallars, and Kodavas adopted matchlocks and creatively adapted to using them under the cover of forests and other landforms. Their tactical use of the terrain enabled them to develop expertise in ‘guerilla warfare’ using the matchlock. This community-based expertise continued into the eighteenth century.⁸⁵ In such examples both in the north and the south, using matchlocks either enabled communities to earn a living by serving armies of states with distinction, or resist the authority of the state or the elite and assert themselves with success; either way, this often helped their upward social mobility as footsoldiers and aided them in carving out a space for themselves.

In the final section, we return to the issue we began with – the historiographical neglect of the Mughal infantry. Having highlighted the importance of infantry in Mughal South Asia, I ask what explains this long-standing neglect. I locate the reasons in the intellectual and cultural orientations of both modern historians and the Mughal texts they study.

Why the Historian’s Neglect of the Infantry?

The picture that emerges from this study is one of great richness, variety, and complexity. We have noted the importance of the infantry, especially the matchlockmen and artillerymen, in Mughal battles, sieges, and amphibious en-

arms, 164–90, 218–26. Kolff, ‘Peasants Fighting for a Living’, especially pp. 255–65 for a focused discussion on the Ujjainiyas. Also Streusand, *Formation of the Mughal Empire*, 70–72.

84 Khan, *Gunpowder and Firearms*, 174, 179, 181–82.

85 Rao, Shulman, and Subrahmanyam, ‘The Art of War under the Nayakas’, 149, 151.

gagements as well as the mechanisms through which armies recruited, paid, and organized these footsoldiers. Even though the Mughal infantry did not have the similar social or political currency as their European or Ottoman counterparts, they nevertheless impacted the administration and authority of the empire in certain ways. From outside the imperial apparatus, their influence ranged from passive impact by virtue of their mere existence to active resistance to imperial authority, often using the same matchlock that also made them valued to the empire as soldiers. We have also noted that the prominence of the Mughal infantry was not exceptional; states in different parts of South Asia had large groups of footsoldiers in their armies as well. The spread of firearms through various networks gave rise to new kinds of infantrymen adept at using both the matchlock and the cannon even as older traditions of foot-archery and fighting with shock weapons continued to be operational. Overall, early modern South Asia had a rich and diverse culture of infantry warfare in and beyond the Mughal Empire. This runs contrary to the long-standing neglect of the roles of the infantry by modern scholars.

Why did Orme in the late eighteenth century, and following him Irvine in the early twentieth, offer such disparaging remarks about the infantry? The reasons for this might have to do with the situation of infantry warfare in the mid-eighteenth century, when Orme was employed as a civil servant for the English East India Company in India. During the sixteenth and seventeenth centuries, warfare in western Europe had undergone a profound transformation, which also changed forever the role of infantry. The demise of the feudal age saw the resurgence of infantry first in the form of the English longbowmen and the Swiss pikemen. This was followed by European states arming their infantry with matchlocks, thereby producing standing armies of firearms-bearing non-elite footsoldiers, ready to defend the interest of the king. This was the beginning of the slow but steady marginalisation of the cavalry on the battlefield and the mounted aristocracy in politics. States introduced drill and discipline to train these units of infantry. Deployed in massed formation together with pikemen and artillery, they transformed the nature of the European battlefield. The practice of volley fire allowed these matchlock units to maintain a steady rate of fire on the battlefield. The relatively inexpensive nature of these infantry units, especially in comparison with the expensive feudal cavalry, aided the rapid expansion of army sizes. With the adoption of flintlock muskets by armies in the

early seventeenth century, the infantry units became even more effective. All these factors contributed to warfare generally becoming more lethal.⁸⁶

None of these changes had taken effect in South Asia; here the history of the infantry took its own course responding to its immediate historical context. But coming from what they had known in their own countries, this must have taken European travelers and observers of the period aback. It is the observations of such travelers especially from the sixteenth and seventeenth centuries that informed the ideas of Orme in the eighteenth. The French traveler Francois Bernier, for instance, noted in the mid seventeenth century: 'I have said that the infantry was inconsiderable... I cannot account for the prodigious amount of infantry with which some people swell the armies of the Great Mogol, otherwise than by supposing that with the fighting men, they confound servants, sutlers, tradesmen, and all those individuals belonging to bazars, or markets, who accompany the troops.'⁸⁷ Such observations had less to do with any understanding of the actual efficacy of the infantry in Mughal warfare, and more with their difference with contemporary European infantry. The denigration of Mughal infantry by the European observers in terms of its vast numbers, the lack of expertise of its soldiers, and their overlap with camp followers were mainly about a sense of a European cultural superiority, expressed in the domain of war.

This snowballed further in the eighteenth century, as observers like Orme wrote at a time when European flintlock-equipped, disciplined infantry and mobile field artillery were getting the better of Indian armies on the battlefield. The sense of crisis this triggered among the new regional kingdoms of the Jats, Sikhs, and others led them to employ European military professionals to revamp their infantries in particular and armies in general along European lines.⁸⁸ This must have left people like Orme with a sense of military and cultural superiority, which they ended up projecting backward. William Irvine builds this sense of innate European superiority in his reading of the military changes of the mid eighteenth century as he notes: 'It was not until the middle of the 18th centu-

86 Parker, *The Military Revolution*.

87 Bernier's *Travels in the Mughal Empire*, trans. Constable, 219-220.

88 Jos J. L. Gommans, 'Warhorse and Gunpowder' in India, c. 1000-1850', in Jeremy Black (ed.), *War in the Early Modern World, 1450-1815* (London and New York: Routledge, 1999), 105-127, see 117-119; Kaushik Roy, *War, Culture and Society in Early Modern South Asia, 1740-1849* (London and New York: Routledge, 2013).

ry, when the way had been shewn by the French and the English, that efforts were made to improve the arms and discipline of the foot soldier.'⁸⁹ The word 'improve' betrays the understanding that he believed the Indian infantry to be always inferior; it could be brought up to the mark only with the touchstone of European influence. Coloured with such prejudice, he did not find it necessary to investigate the actual military roles of the infantry in military campaigns in earlier times. The fact that infantrymen played a vital role in Mughal expansion across South Asia even without adopting the flintlock guns European musketeers started using in the early seventeenth century did not make Irvine wonder what lay behind their ostensibly unlikely success. The fact that Indian infantry was different from its European counterpart before the mid eighteenth century was enough to write it off.

The other factor influencing the judgement of historians has been an uncritical adoption of the perspective of Mughal authors, who catered to the interests and preferences of the imperial aristocracy. This aristocracy had a strong cultural predisposition towards horsemanship and, by extension, cavalry warfare.⁹⁰ In contrast, they had a sense of social disdain towards the infantry, which also comprised the non-elite. Irvine explicitly notes this prejudice when he says, 'The matchlock was left chiefly to the infantry, who occupied a much inferior position to that of the cavalry in the opinion of Moghul commanders'.⁹¹ To be a gentleman meant to be able to ride and know about horses. Irvine sums up this cultural preference in the following words: 'Any Mahomedan or Rajput, who respected himself, managed somehow or other to provide himself with a mount and obtained enrolment as a cavalry soldier, who was in popular estimation a gentleman.'⁹² Part of the disdain towards the infantry might have been a certain social elitism and a cultural valorization of mounted warfare. It is difficult to tell if the Mughal aristocracy also shared with their Nayaka counterpart in South India a disdain towards matchlocks as a dishonourable weapon of war. Much like

89 Irvine, *Army of the Great Moghuls*, 103.

90 For more about this equestrian culture among the Mughal political elite, see Monica Meadows, 'The Horse: Conspicuous Consumption of Embodied Masculinity in South Asia, 1600-1850', Unpublished Ph.D. Dissertation. University of Washington, 2013; Jagjeet Lally, 'Empires and Equines: The Horse in Art and Exchange in South Asia, ca. 1600- ca. 1850', *Comparative Studies of South Asia, Africa and the Middle East* 35, no. 1 (2015): 96-116.

91 Irvine, *Army of the Great Moghuls*, 103.

92 Irvine, *Army of the Great Moghuls*, 162.

the Mamluk mounted elite of early sixteenth-century Egypt and the mounted aristocracy of Europe of a similar period, the Nayaka elite glorified hand-to-hand combat and looked down upon a matchlockman shooting down a rider from a distance or a hidden position.⁹³

Catering to the imperial elite, Mughal texts valorized the cavalry and played down the importance of the infantrymen. They expressed the class-based preferences and prejudices of their patrons. For them, it was the cavalry – the more elite wing of Mughal armies, that represented the substance of the empire’s military might; the non-elite who comprised the infantry did not deserve much attention. Yet, as we have seen in this chapter, a careful analysis of the information gleaned from these chronicles reveal a very different picture. We have seen that cavalry was not universally important and that the infantry played a vital role in almost every sphere of military action. Modern historians have reproduced the cultural prejudice of Mughal chronicles against the infantry and preference for the cavalry. They have not paused often enough to problematise this rhetoric and investigate the actual roles of these two arms in campaigns.

Once we move past these issues of cultural prejudice and social predispositions, we are able to appreciate the complexity and importance of the infantry in the Mughal Empire in particular and early modern South Asia in general. Difference in trajectory (for the most part with Europe) did not automatically mean inferiority. Neither can we let the histories we write get coloured by the preferences of the groups that produced the texts we interpret. Instead, it is necessary to interpret episodes of the past in their individual historical contexts and on their own terms. Seen in this way, the Mughal infantry seems very far from being ‘a rabble of half-armed men’. Rather, it is more accurate to see the vast numbers of non-elite footsoldiers of Mughal armies as collaborators of the empire and vital agents of the empire’s war, conquest, and territorial expansion.

93 Rao, Shulman, and Subrahmanyam, ‘The Art of War under the Nayakas’, 146-148.

Central European Infantry Handbooks in the Time of Early Modern Military Revolution¹

by KLÁRA ANDRESOVÁ

SUMMARY. The theory of early modern military revolution, which was presented by Michael Roberts in the 1950s and was later revised by various historians, is well known and still in use even today. One of the pillars of supposed revolution was a change of infantry training and a general change of infantry tactics, which first happened in the Netherlands in the 1590s. Another modification of infantry training and tactics took place in Sweden during the reign of Gustavus Adolphus. These transformations were reflected by a specific genre of period learned literature – military handbooks for infantry. Military manuals were published not only in Western but also in Central Europe, mostly in Germany. In the period of 1550–1650, 125 military handbooks were printed in 227 editions there. Twenty-four of these books were concerned exclusively with the infantry warfare, another four dealt with both infantry and one of the other branches of the contemporary army. Book history is a transdisciplinary field which offers new methods of studying military history. While researching changes of the content and formal aspects of military publications, it is possible to trace changes of period military theory. The prosopography of military theorists and book publishers helps to reveal how the new ideas were disseminated – in this case how the new approaches to infantry training and the art of war spread from Western and Northern Europe to its centre. The aim of this chapter is not only to describe period infantry handbooks, but also to characterise the transfer of revolutionary changes in infantry warfare from Netherlands and Sweden into Central Europe with the help of period military manuals – especially those intended for infantry.

- 1 © Klára Andresová, 2023, Masaryk Institute and Archives of the CAS, v. v. i., Gabčíkova 2362/10, 182 00 Prague 8, Czech Republic, ID: 67985921. An earlier version of the text has been published in Tadeusz Grabarczyk – Magdalena Pogońska-Pol (edd.), *Oblicza wojny. Tom 7, Przed bitwą* (Łódź 2023), p. 195–211. This chapter is based on the findings published in the Ph.D. dissertation Klára Andresová, *Šíření vojenské teorie v raném novověku: Vojenské příručky vytištěné ve střední Evropě v letech 1550–1650* [= *The Dissemination of Military Theory in the Early Modern Period: Military Manuals Printed in Central Europe in 1550–1650*] (Praha 2023).

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(DOI 10.36158/97912566917462).

1. Introduction

When Johann Jacob von Wallhausen published his *Kriegskunst zu Fuss* in 1615,² it was one of the first detailed treatises on the military art of infantry to appear in print in Europe. Wallhausen soon became known as a military theorist who published at least 14 writings on military subjects. The most influential of these was the *Kriegskunst zu Fuss*, which was published at least 10 times by the mid-17th century in four different language versions. The book was later followed by a number of other authors. While writing it, Wallhausen himself drew on information he had acquired in various ways, both by studying older writings and by personal experience gained from his service in the army of the military reformers Maurice of Orange and his cousins. What was the history of infantry military manuals in Central Europe before and after Wallhausen, and what was the development of this genre?

2. Military handbooks as a genre of educational literature

The genre of military manuals does not have a universally employed definition; therefore, it is necessary to characterise it at the beginning of this paper. Taking into account the specifics of different historical periods and geographical areas, military manuals can be broadly characterised as educational publications intended for soldiers at different levels of military hierarchy, containing information about military service and warfare in general terms, or more specifically about service and warfare as related to a specific type of troop. Such information may come from a single source or multiple, including but not limited to military or legal regulations, service instructions and real-life troop experience. When focusing on the period 1550–1650, the military manuals of the time can be characterised more specifically as educational publications pertaining to military administration, the art of war, military mathematics, fortress architecture, and military pyrotechnics. They discussed their subject matter in universal terms or focused on a specific types of troop. They were general texts used internationally, with recommendations on how to proceed when solving both broad and specific military and troop problems rather than obligatory guidelines for

2 Johann Jacob von Wallhausen, *Kriegskunst zu Fuss* (Oppenheim 1615).



1. Johann Jacob von Wallhausen (ca. 1581-1627) was one of the most important European military theoreticians of the 17th century. Wikimedia Commons.

contemporary commanders. The dissemination of military handbooks through movable type began in the early printing period. The first printed military manual was *De re militari* by the Italian architect Roberto Valturio (1405–1475), a manuscript version of which appeared before 1463 and was first printed in 1472.³ It was soon followed by a treatise of the same title by the Roman military theorist Flavius Vegetius Renatus (4th–5th century AD), issued around 1473. Both works were published in Italy, but the Central European press did not take long to follow suit. It was the aforementioned Vegetius's work that became the earliest German military incunabulum.⁴

Military manuals, which were before 1472 distributed only as manuscripts, could reach a wider circle of readers thanks to the invention of the printing press. In addition to editions of treatises that originated in antiquity or were heavily inspired by ancient writings, new works began to be printed that responded to modern trends in military science. This paper focuses exactly on these books, as they were the only ones that could be used as instructional texts for modern warfare. The Central European military manuals from 1550–1650 can be divided into three similarly long chronological periods, which roughly indicate the development and transformations of the genre.

The period of 1550–1590 was a time when bastion fortresses were developed in Southern and Western Europe, and this coincided with the publishing of literature on fortifications. However, in Central Europe, such books still appeared rarely. Publications issued there were mostly of an administrative nature, did not pay much attention to the tactics and frequently responded to the war with the Ottomans.

In the period of 1590–1618, the number of books on military administration gradually dropped and publications on military art grew. Besides the works responding to the wars with the Ottomans, the first publications promoting ideas of the Dutch military reforms started to appear in the German states. In Central Europe, publications on fortification construction were printed more frequently.

The period of 1618–1650 can be identified with the Thirty Years' War and

3 Roberto Valturio, *De re militari* (Verona 1472). For more, cf. Guy Wilson, "Military Science, History and Art", in Pia F. Cuneo (ed.) *Artful Armies, Beautiful Battles. Art and Warfare in Early Modern Europe* (Leiden 2002), p. 14–15.

4 In Latin, it was Vegetius, *De re militari* (Köln ca. 1475). In a German translation Vegetius, [*Kurze Verweissung von der Ritterschaft*] (Augsburg ca. 1475).

the immediately following years. The new military publications now responded to this major conflict. Books on fortification were still published. Many book militaria were new editions of works from the previous period.⁵

3. *Military handbooks of East-Central Europe*

The German-speaking area, which is the main focus of the chapter, became an important centre for the development of military science in the context of the entire Europe. Military manuals were disseminated there primarily through the printing press, and copies of individual editions can still be found in libraries throughout the continent. The situation was different in the eastern half of Central Europe, where the printing industry spread later. In the case of today's Slovakia, for example, it is impossible to speak of any printing house having been active on its territory for a long period of time before the middle of the 17th century. Books therefore had to be imported from other parts of the Kingdom of Hungary or from abroad. However, military manuals were not printed in Hungarian workshops at that time either, therefore all military prints had to be imported from abroad.

The situation was different in the territory of the Kingdom of Bohemia and the Kingdom of Poland (later Polish-Lithuanian Commonwealth), where printing had already spread at the end of the 15th century. Although educational publications were disseminated through this region, military manuals were not so much. Between the mid-16th and the mid-17th centuries, only one military manual was printed in the territory of the Kingdom of Bohemia – a translation of the famous work of the imperial general Lazarus von Schwendi, *Kriegs Discurs*,⁶ which was published in Prague in 1618 under the title *Discurs o běhu válečném*.⁷ However, no other military handbook was printed there until 1733. In Poland, 10 military manuals were printed between 1550 and 1650, but the

5 More on the reflection of military manuals in modern literature (mainly dictionaries and encyclopaedias), on the specifics of the genre between 1550–1650 and its division into distinctive subcategories in: Klára Andresová, “Vojenské příručky raného novověku jako předmět výzkumu historiografie vojenství a knihovnědy: Tisky středovýchodní Evropy v kontextu evropské produkce”, in *Vojenská História*, 2018, vol. 3, p. 62–68.

6 First issue: Lazarus von Schwendi, *Kriegs Discurs* (Frankfurt am Main 1593).

7 Lazarus von Schwendi, *Discurs o Běhu Válečném a Auřadech Wogenských* (Praha 1618). More about this book in: Klára Andresová, “Česká vojenská příručka z roku 1618”, in *Acta Musei Nationalis Pragae – Historia Litterarum*, 2020, vol. 1–2, p. 44–52.

situation in the two countries did not differ much. Both Czechs and Poles produced military manuals, but they mostly distributed them in manuscripts. The most important military manuscripts of that time in Bohemia were probably the *Instrukcí vojanská* by Zikmund Chotek of Chotkov⁸ and the *Kriegsdiscurs über der hochlöblichen Cron Böhmen Landtdefension* by Jindřich Michal Hýzrle of Chody.⁹ In Poland it is worth mentioning, for example, *Księgi hetmańskie* by Stanisław Sarnicki,¹⁰ a book on period artillery and art of fortification *Praxis ręczna o działach* by Andrea dell'Aqua,¹¹ or a fortification manual *Architectura militaris* by Józef Naronowicz-Naroński.¹²

Other strategies for the dissemination of military thoughts included the incorporation of military treatises into larger works, which, however, cannot be described as military manuals due to their more general focus. Some authors chose to publish their military works in printing houses in the Western Europe, most notably the Poles Adam Freitag and Kazimierz Siemienowicz.¹³ In the period 1550–1650, only one manual of infantry military art was printed in the territory of the Kingdom of Bohemia or the Kingdom of Poland – the German-language book *Tyrocinium militare* by Conrad Cöllner, published in 1616 in the cosmopolitan Hanseatic city of Danzig, whose cultural and printing tradition differed significantly from most areas of Poland.¹⁴ The first and only Polish infantry training manual published in the 17th century was *Piechotne ćwiczenie albo wojenność piesza* authored probably by Błażej Lipowski only in 1660.¹⁵

8 More on the manuscript: Ondřej Švehelka, “‘Zbroje a odění potřebí jest...’: Čtyři texty ze 16. století týkající se tureckých válek, s přihlédnutím k válce patnáctileté”, in *Historie – Otázky – Problémy*, 2014, vol. 2, p. 186–196.

9 Hýzrle's manual is available in an edited version prepared by Jiří Kubeš et al. *Cesty a život Jindřicha Hýzrle z Chodů* (Praha 2021), p. 350–363.

10 More on it, e.g., in: Zdislav Spieralski, *Polska sztuka wojenna w latach 1454–1562* (Warszawa 1958), p. 137–143, 149–153.

11 Cf. Tadeusz Nowak (ed.), *Andrzej dell'Aqua. Praxis ręczna o działach* (Oświęcim 2016).

12 The book is available in the modern edition: Tadeusz Nowak – Janina Nowakova (edd.), *Józef Naronowicz-Naroński: Budownictwo wojenne* (Warszawa 1957).

13 For editions of their works, cf. the database *Universal Short Title Catalogue (USTC)*, www.ustc.ac.uk Read November 6, 2024.

14 Conrad Cöllner, *Tyrocinium militare* (Gdańsk 1616).

15 Błażej Lipowski, *Piechotne ćwiczenie albo wojenność piesza* (Kraków 1660). More on the handbook in: Agnieszka Szczauś, “Językowy kształt komend w ‘Piechotnym ćwiczeniu’ Błażeja Lipowskiego (1660 r.)”, *Studia Europaea Gnesnensia*, 2015, vol. 12, p. 117–127.

The rest of the chapter will therefore focus mainly on publications issued in the German-speaking area.¹⁶

4. Infantry handbooks

Between 1550 and 1650, 227 editions of military manuals were published in Central Europe. As some books were published twice or more, this amounts to a total of 125 different works. A lot of these books dealt with the warfare of the time in general – either in terms of military administration or military art and drill. Twenty-four of the editions dealt exclusively with infantry. If the publications that also included passages on another branch of period army are added (i.e. cavalry, artillery or fortification construction), this makes a total of 28 editions.¹⁷ Most of these books (21) can be characterized as publications on military art (both analytical treatises and drill manuals), but besides them there are also five books on military mathematics, one book on military administration and one military treatise.

Military treatises were a relic of medieval military literature. They usually took a philosophical approach to warfare and offered reflections on various aspects of war. Unlike most other military handbooks, the military treatises were aimed at civilians – especially rulers, their heirs, politicians and scholars. Military treatise *Extract, unnd kurtzer Außzug des Büchleins, von der newen Armatur unnd Instrumentstärck* written by Wendelin Hipler was a text on the use of new inventions – weapons for infantry and artillery.¹⁸

Books of military mathematics were a special kind of literature, usually written not by warriors but by mathematicians. They were either mathematics textbooks, part of which dealt with the use of arithmetic and geometry in military science, or collections of tables supplemented only by a short introduction. Some of these tables were aimed at fortress construction, in which case they

16 More on the issue of military manuals of East-Central Europe: Andresová (2018), p. 72–76.

17 These numbers are based on excerpts from the databases USTC (www.ustc.ac.uk), VD16 (<https://www.vd16.de/>), VD17 (<http://www.vd17.de/>), GLN 15-16 (<http://www.ville-ge.ch/musinfo/bd/bge/gln/>), Bibliografia Staropolska (<https://www.estreicher.uj.edu.pl/staropolska/>), Knihopis (<http://www.knihopis.cz/>); All read November 6, 2024.

18 Wendelin Hipler, *Extract, vnnd kurtzer Außzug des Büchleins, von der newen Armatur vnnd Instrumentstärck* (Frankfurt am Main 1593).

specified the recommended angles and dimensions of fortification structures; artillery tables dealt with ballistics. Tables for infantry or cavalry determined how a particular number of men should be divided into various organisational units. This group of military handbooks might have been accompanied by simple illustrations – woodcuts or illustrations made from typographic marks – depicting battle formations. The authors of published mathematical tables for the use by infantry and cavalry officers in the period under study were Zacharias Lochner, Johannes Lhor, Caspar Grunewald, and Philipp Gyger.¹⁹ The mathematic textbook for (future) military offices, which dealt first with mathematics in general and then with the use of mathematics for the needs of infantry and fortress construction, was written by Jacob Willemsz Verroten.²⁰

Military administrative manuals were the dominant type of military handbooks until about 1590. These books dealt primarily with the various ranks and offices in the army and discussed the rights and duties of their holders. The most important author of military administrative manuals in the Central Europe was Leonhardt Fronsberger. His general-oriented *Fünff Bücher. Vonn Kriegs-Regiment vnd Ordnung* of 1555²¹ was later expanded into a comprehensive three-volume *Kriegsbuch*, which was published repeatedly until the end of the 16th century.²² The work was a bestseller from the beginning, and was followed by books by other authors.

One such example is the unique book *Kurtzer vnd notwendiger bericht der Feldtschreiberey* by Stanislaus Hohenspach.²³ This publication, unlike most other military manuals, was not primarily intended for officers and generals, but for military scribes. It describes duties of military scribes and also the doc-

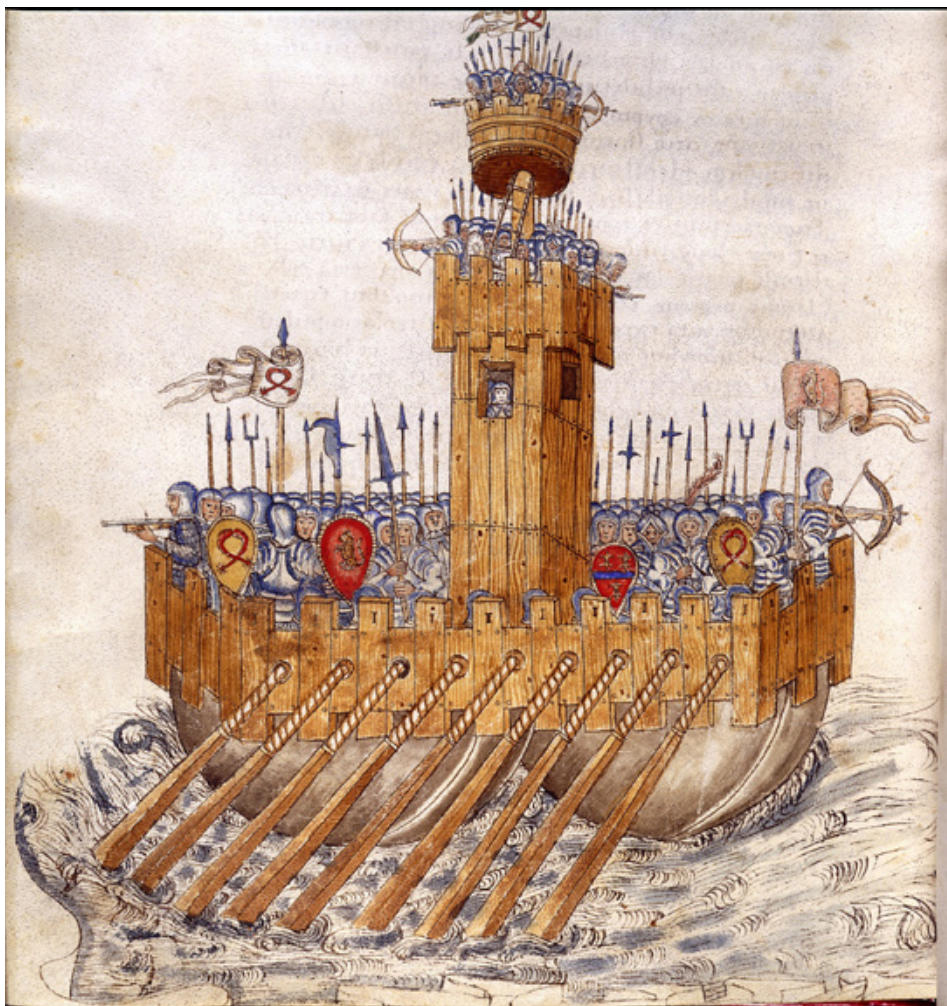
19 Zacharias Lochner, *Zwey Büchlein der gerechneten Schlachtordnung* (Nürnberg 1557); Johannes Lhor, *KRIEGS Feldbüchlin, von allerlay Schlachtordnungen* (Dillingen 1569); Caspar Grunewald, *ANALYSIS, Daß ist, Auflösung vierer schöner Cossischer Schlachtordnungs Exempeln* (Frankfurt am Main 1616); Philipp Gyger, *Newe Arithmetische Kriegsordnung* (Basel 1617).

20 Jacob Willemsz Verroten, *Kriegs MATHEMATICA* (Hamburg 1636).

21 First issue: Leonhardt Fronsberger, *Fünff Bücher. Vonn Kriegs Regiment vnd Ordnung* (Frankfurt am Main 1555).

22 First issue: Leonhardt Fronsberger, *Kriegsbuch* (Frankfurt am Main 1573). It was last published in 1596.

23 Stanislaus Hohenspach, *Kurtzer vnd notwendiger bericht der Feldtschreiberey* (Heidelberg 1577).



2. Richly illustrated book *De re militari* by ancient author Flavius Vegetius Renatus was one of the first military manuals to be printed (British Library, Add. Ms 24945, f. 231v).
Wikimedia Commons

uments they produced. The present-day researcher will find in it, among other things, information on the recruitment and mustering of troops.

After 1590, publications on military art were among the most common types of military manuals (besides books on fortress construction). These books can be subdivided into short but usually richly illustrated drill books and more com-

prehensive analytical treatises.²⁴ The former focused on the operation of weapons and the basic functioning of soldiers in units, while the longer treatises included next to the chapters on drill also texts on military administration, military campaigns, strategies, building of military camps and other related topics. Drill books and analytical military treatises coexisted, and the gradual trend, which became more pronounced in the second half of the 17th century, was an increase in the number of drill books at the expense of analytical treatises. This is indicative of the changing function of the military manual and the changing demands on this type of literature over the years, as large books originally intended for scholars gradually changed to utilitarian booklets for officers that helped to unify military practice across Europe.

One of the first and most famous drill books is *Wapenhandelinge* by Jacques de Gheyn. The core of the book is composed of a series of 117 illustrations showing the operation of infantry weapons – simple handguns, muskets, and pikes. This is why the work is known not by the author of the text (probably John of Nassau) but by the author of the illustrations (Jacques de Gheyn). *Wapenhandelinge* was first published in 1607 in the Netherlands.²⁵ It was soon translated and a bilingual German-French version was first published in 1609.²⁶ Gheyn was followed by a number of other authors. Peter Isselburg's bilingual German-French drill book *Künstliche Waffenhandlung* from 1620 was in fact just a reprint of Gheyn's book.²⁷ Another drill book comes from 1619 – anonymous publication *Scola Militaris Exercitationis*.²⁸

The first analytical military treatise published in the Central Europe was issued at the turn of the century: a lesser-known manual of military art by Maurice of Hesse-Kassel.²⁹ The book was relatively short and dealt briefly with basic

24 Division into drill books and analytical military treatises is based on David Lawrence, *The complete soldier* (Leiden 2008), p. 195.

25 Jacques de Gheyn, *Wapenhandelinge van de Roers, Musquetten ende Spiesen* (The Hague 1607).

26 Jacques de Gheyn, *Waffenhandlung Von den Röhren, Mußquetten vnd Spiessen* (Frankfurt am Main 1609).

27 Peter Isselburg, *Künstliche Waffenhandlung der Musqueten vn[d] Piquen oder Langen-Spiessen* (Nürnberg 1620).

28 *Scola Militaris Exercitationis* (Köln 1619).

29 Maurice Hesse-Kassel, *Instruction. Was sich vnser Bestellte Kriegsärthe vnd Diener verhalten sollen* (Kassel 1600).

issues of recruiting and training infantry soldiers and their use on the battlefield.

The best-known military treatise for infantry was not published in Central Europe until fifteen years later: Johann Jacob von Wallhausen's *Kriegskunst zu Fuss*. Its illustrations depicting the operation of infantry weapons were based on Jacques de Gheyn's copperplates from a few years earlier. The book was re-published several times and translated into several European languages. It was a large publication in folio format, accompanied by a number of copperplate illustrations, and was therefore quite expensive. In order to make the basics of military art accessible to poorer people, Wallhausen published an abridgement of the book soon afterwards, entitled *Alphabetum pro tyrone pedestri*.³⁰

One of the first to be inspired by Wallhausen's infantry manual was an officer who very likely knew him personally. Wallhausen entered in 1613 a military service in Danzig, and he signed his works as the captain of that city until 1 May 1616.³¹ When on 29 May 1616 the otherwise unknown Conrad Cöller dated the preface of his handbook *Tyrocinium militare*, he titled himself as a Danzig lieutenant. However, lieutenant Cöller did not become as famous as captain Wallhausen, did not write further works, and did not publish his book for a second time. His only known manual, which contains only one simple illustration, deals mainly with the operation of infantry weapons and training the movements of infantry units, and is written in the form of a dialogue between two men, Julius and Cornelius. However, Wallhausen was also followed by a number of other authors who did not necessarily know him personally but were familiar with his books.

5. Authors of infantry handbooks

Seventeen different men can be identified as the authors of the 28 books examined, one of which is anonymous. The authors of these infantry manuals – and also of contemporary military manuals in general – can be divided into

30 Johann Jacob von Wallhausen, *Alphabetum pro tyrone pedestri* (Frankfurt am Main 1615).

31 Recently on Wallhausen's life: Christian Brachthäuser, "Wie sich ein Fürst zum Krieg soll rüsten": *Die älteste Militärakademie der Welt* (Groß-Gerau 2016); Klára Andresová, "Šíření myšlenek raně novověké revoluce ve vojenství do střední Evropy prostřednictvím vojenských příruček Johanna Jacobiho von Wallhausena", in Lucie Heilandová – Jindra Pavelková (edd.), *Knížky naučení všelikého* (Brno 2019), p. 49–68.

several groups according to their occupation. In the group of authors examined, there are well-known military theorists (Johann Jacob von Wallhausen) and fortress builders (Valentin Friderich). Several military officers, who usually published one theoretical work each, are known mainly from the pages of these works and are otherwise essentially unknown (Conrad Cöller, Zacharias Krammer von Heydeck, Bartolomeo Pellicciari, Laurentius à Troupitzen, the military scribe Stanislaus Hohenspach). In the case of mathematical books, the authors were mathematicians (Zacharias Lochner, Johannes Lhor, Philipp Gyger, Caspar Grunewald and Jacob Willemsz Verroten). The authorship of military manuals, of which the pictorial element is an essential component, fell to illustrators (Jacques de Gheyn, Peter Isselburg). Some military manuals were written by people engaged in different professions (Gamaliel de La Tour was a physician), profession of some remains unknown (Wendelin Hipler). The last type of authors were noblemen – in this case it was just one – Maurice of Hesse-Kassel. His military-theoretical book is not unusual, as nobles were often educated in military issues and studied the works of older military theorists. Among the most famous examples of this approach is John of Nassau, who was writing at the same time, and whose extensive military works remain only in manuscript.³²

6. Illustrations

Most military handbooks printed in Central Europe in the period 1550–1650 were illustrated, and infantry manuals are no exception. Three graphic types of illustrations were involved: woodcuts, prevalent in the 16th century, were gradually replaced over the years by copperplates. At the same time, illustrations made of typographic marks, which usually indicated the way soldiers were arranged in units, were used throughout the whole century under study.

The examined infantry manuals are accompanied by two types of illustrations in terms of their function: The first type is educational illustration depicting the handling of weapons, the order of soldiers in units, the structure of military camps or outlines of fortress buildings. The second type lies on the borderline between educational and artistic illustrations, and it depicts the holders

³² John's work has been made accessible editorially: Werner Hahlweg (ed.), *Die Heeresreform der Oranier. Das Kriegsbuch des Grafen Johann von Nassau-Siegen* (Wiesbaden 1973).



3. A musketeer from the famous drill book *Wapenhandelinge* (2-14) by Jacques de Gheyn for instructing its readers how to operate a musket and other weapons. Wikimedia Commons.

of various offices and ranks in the army or scenes from military engagements.

The illustrations are usually not signed. This is true for simple educational diagrams, but often also for more demanding depictions. In fact, only two illustrators of the infantry manuals examined are known by name: the engraver and painter Jacques de Gheyn³³ and the draughtsman, engraver and printer Peter Isselburg,³⁴ who followed Gheyn's illustration book and reprinted it under his own name. As for general military manuals, it is worth mentioning the painter and engraver Jost Amman, who created the illustrations of the *Kriegsbuch* by Leonhardt Fronsberger in the mid-16th century.³⁵ In the case of the infantry part of the book, these are woodcuts depicting various types of soldiers and military officials, as well as copperplates showing military camps or troops on campaign.

7. Dissemination of ideas through military books

Several inspirational lines can be traced among the infantry manuals examined. Within books on military mathematics, Zacharias Lochner's *Zwey Büchlein der gerechneten Schlachtordnung*, published in 1557, achieved a certain influence.³⁶ It was a set of tables advising how to arrange a unit of a certain number of soldiers into a square formation. Johannes Lhor's *Kriegs Feldbüchlin*, 12 years younger, dealt with the same problem.³⁷ Lochner's book was also mentioned in other literature – for example, from 1561 onwards a page extract from this book appeared in Georg Lauterbeck's *Regentenbuch*.³⁸ This excerpt was later translated into Czech when a translation of the *Regentenbuch* was published in 1584 and 1606 under the title *Politia historica* in Prague by Daniel Adam of Veleslavín.³⁹ *Politia historica* was a rather exceptional text in the

33 More on Gheyn, e.g., Jan Piet Filedt Kok, "Jacques de Gheyn II Engraver, Designer and Publisher – I", in *Print Quarterly*, 1990, vol. 3, p. 248–281.

34 More on Isselburg, e.g., Kurt Pilz, „Isselburg, Peter“, in *Neue Deutsche Biographie* 10 (Berlin 1974), p. 201–202.

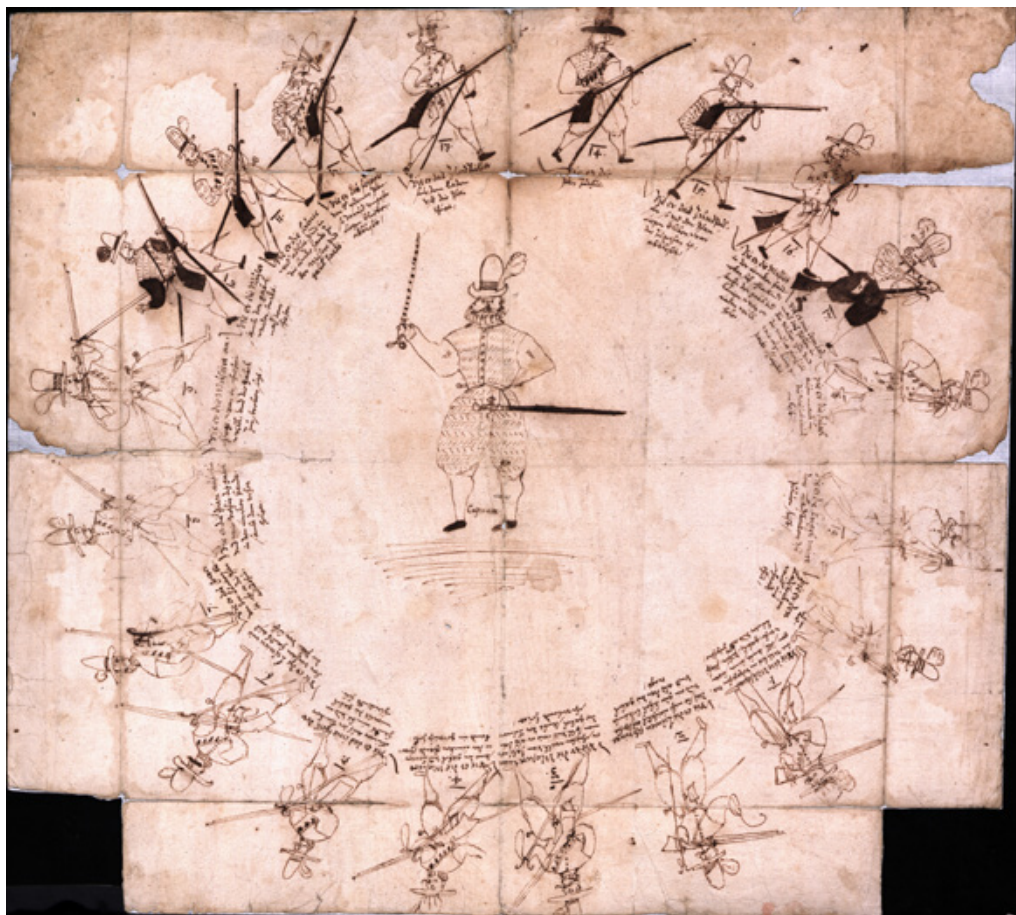
35 More on Amman, e.g., Gero Seelig (ed.), *The New Hollstein German engravings, etchings and woodcuts 1400–1700, Part I–X* (Rotterdam 2002–2003).

36 Lochner (1557).

37 Lhor (1569).

38 First issue with this extract: Georg Lauterbeck, *Regentenbuch* (Leipzig 1561), p. CCXI-Ia.

39 First issue: Georg Lauterbeck, *Politia historica* (Praha 1584), p. 480–481.



4. How to manage the firearms, illustration of the military manuscript *Kriegsbuch* by Count John of Nassau. Near 1600 (Darstellung der Bedienung von Gewehren, Hessisches Hauptstaatsarchiv Abt. 171 Nr. K 923). Wikimedia Commons.

Czech environment, as it contained several chapters focusing on the warfare of the time. As already mentioned, for the entire period under study, only one separate military manual was published in Czech – *Discurs o běhu válečném*.

The second source of inspiration is Leonhardt Fronsberger's *Kriegsbuch*. In his work, the war veteran Fronsberger discussed, among other things, the rights and duties of different types of soldiers and military officials. The book was published repeatedly during the second half of the 16th century and achieved considerable fame, to which other authors and printers referred. In 1577, 22

years after the publication of Fronsberger's first military work, a manual for military scribes, *Kurtzer vnd notwendiger bericht der Feldtschreiberey* by Stanislaus Hohenspach, was printed. In a dedication to colonel Claus von Handtstadt, the printer Müller included the following sentence:

‘I have no doubt that your Grace has encountered and read the *Kriegsordnung* [sic], published by the late Leonhardt Fronsberger and recently reprinted in Frankfurt.’⁴⁰

The intention of the printer, and perhaps of the author, was therefore evidently to build on Fronsberger's fame and to expand on one of the themes opened up by that author.

Almost everyone who published a military administrative manual in the German-speaking area, whether specifically infantry or universal, responded to Fronsberger's work. The Dresden topographer and postmaster Daniel Wintzenberger, in his *Beschreibung einer KriegsOrdnung* of 1588, stated:

‘Useful ideas have previously been written down, especially in that great book, divided into three volumes and published in Frankfurt am Main by Georg [sic] Fronsberger, which deals with the war exploits of Emperor Charles V, waged both on water and land, together with artillery and all ammunitions, with many illustrations. But not everyone can buy the book, furthermore it takes a lot of time to read such an extensive work, and it is impossible to keep it all in one's head. All this is briefly treated in this book, which every warrior, according to his status and office, needs to know.’⁴¹

The third source of inspiration came from the Netherlands from military reformers – Prince Maurice of Orange and his cousins William and John of Nassau, whose military works remained in manuscript only. Although the most famous of these three men is undoubtedly Maurice of Orange, the main originator of Dutch modernisation and the unification of military training and equipment was John of Nassau, author of the manuscript *Kriegsbuch*. In it, he explored both ancient soldiering and ways to apply it in a modern way using the resources that the late 16th century offered. John of Nassau was the author of the textual part of the drill book illustrated by Jacques de Gheyn, which was later reprinted by Peter Isselburg.

⁴⁰ Hohenspach (1577), p. [3].

⁴¹ Daniel Wintzenberger, *Beschreibung einer KriegsOrdnung zu Roß vnd Fueß* (Dresden 1588), p. [4].



5. An Officer of the Rank of 'Oberster Feldprofoss' (chief of military police) in the Imperial Army, by Jost Amman (1539-1591) Released as CC-0 by Getty 103R3C. Commons Wikimedia.

Johann Jacob von Wallhausen also drew from his contacts with the Dutch reformers. He began his military career in 1599 in the army of Maurice of Orange, later serving in Hungary and Russia and from 1613 in Danzig. In 1616, in collaboration with John of Nassau, he prepared the curriculum for the first European military academy in the German town of Siegen, which he ran as its director for several months in 1617.⁴² It should be recalled that Wallhausen's work was followed by that of another soldier working in Danzig – perhaps Wallhausen's subordinate – lieutenant Conrad Cöller.

Inspiration in Dutch military reforms can be found in a number of military manuals from the first half of the 17th century. In particular, the infantry manual by Valentin Friderich *Kriegs kunst zu Fuß* of 1619 refers to the teachings of Maurice of Orange.⁴³ The Netherlands is mentioned as a leading country where military art was taught by Zacharias Krammer von Heydeck, author of the manual *Bellona* of 1625. The author also mentions that he was taught at a 'high military school,' by which he could theoretically mean the Siegen Academy.⁴⁴ Also the French manual by Gamaliel de la Tour, published in Geneva in 1633 and 1634, *Principes de l'art militaire*, refers to military art as practiced in the Netherlands.⁴⁵

In the 1630s, a new stream of ideas came to Central Europe from Sweden. There, Dutch military doctrine was reworked by the king – Gustavus Adolphus. An infantry manual published twice in Germany was called *Kriegs Kunst, Nach Königlicher Schwedischer Manier* and was written by an officer in the Swedish service, Laurentius à Troupitzen. In the preface of the book, he praised the order, wisdom, art, and experience of the soldiers in the Dutch service.⁴⁶ However, he emphasised above all the contribution of Gustavus Adolphus to the Swedish military, who, in his opinion, improved the discipline and order previously used in Europe, but also, for example, invented new battle formations, thus earning eternal fame.

42 More on the Siegen military academy: Brachthäuser (2016).

43 Valentin Friderich, *Kriegs kunst zu Fuß vnnd Eige[n]dlicher vnderricht* (Bern 1619), p. 1.

44 Zacharias Krammer von Heydeck, *Bellona* (Neuburg am Donau 1625), p. [3].

45 First issue: Gamaliel de La Tour, *Principes de l'art militaire* (Genève 1633), title page.

46 First issue: Laurentius à Troupitzen, *Kriegs Kunst, Nach Königlicher Schwedischer Manier* (Frankfurt am Main 1633), p. 4.

8. Theory and praxis

It is clear, then, that Dutch and Swedish reformist ideas reached Central Europe through books shortly after their introduction in Western and Northern Europe. Virtually everyone who published a book on infantry warfare in the German-speaking area can be linked in some way to the Dutch military reforms, either through personal experience or through study of earlier books. On the other hand, it should be mentioned that not everyone associated with the Dutch tradition actually implemented it in his writings. This is also true for Wallhausen himself – while he knew and accepted the Dutch drill, he recommended that troops be trained and organised according to older, proven practices used, for example, on the battlefield in Hungary.⁴⁷

After all, it is also his work that raises the question of how quickly Dutch military practice really took hold in Central Europe. In 1615 Wallhausen published his first work on the military art of infantry, in which he recalled the art of proper warfare – ‘ars bene belligerandi.’ He published the book in the hope that experienced warriors would once again elevate the art. However, in 1621, when he published *Defensio patriae*, Wallhausen mentioned that he had unfortunately not seen the use of this art in practice so far.⁴⁸

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⁴⁷ Cf. Wallhausen, *Kriegskunst* (1615).

⁴⁸ Johann Jacob von Wallhausen, *Defensio patriae* (Frankfurt am Main 1621), p. 6.

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Song Infantry

by PETER LORGE

Infantry and Imperial Ideology in Song China

It has long been understood that militaries are reflections of the societies that employ them. Who directs the means of organized violence, who carries out that violence, and how it is conceived of all express core social and political values. For sedentary societies that drew the majority of their armed forces from the farming population, the ideological understanding of the role of infantry had immense moral and functional implications. The Warring States Period (475-221 BCE) ideal was that a farmer would serve in the military when needed and then return to his agricultural work. This ideal persisted for the rest of Chinese history sometimes in direct contrast to reality, because it reflected certain moral values. A farmer-soldier was a moral ideal, a man who did not desire war but could fight in defense of his land. This amateur soldier was, of course, an infantryman.

By the Song dynasty (960-1279) the imperial army was a professional, standing force. It was primarily infantry, for reasons of function and the difficulties of obtaining sufficient horses. Time and ideology have elided the many changes in form and function of the Song army yielding a modern view that it was expensive, ineffective, and degenerate. This modern view is, however, partly based upon Song officials lamenting the problems of paying for and deploying the army. Yet the officials' view of the Song military was not simply due to the pragmatic concerns of government budgets, it was also the result of their *ruist* (Confucian) ideology combined with the common culture of the time. Over the course of the Song dynasty, as Elad Alyagon has argued, a penal-military system developed that impoverished and exploited soldiers and their families.¹ Yet in some periods the Song army worked extremely well.

1 Elad Alyagon, *Inked: Tattooed Soldiers and the Song Empire's Penal-Military Complex*, Cambridge, MA: Harvard University Press, 2023.

The Song dynasty ruled a vast and varied empire for over three centuries and, despite both a professional government history office and a variety of private sources, the sources for the Song military are uneven. Song dynasty military history in turn remains a small and idiosyncratic field. It is therefore just barely possible to make some generalizations about infantry forces during the Song. Disentangled from the *ruist* ideology, the army in general and the infantry in particular were episodically excellent, usually adequate, and occasionally poor. Given how poorly the soldiers were treated by civil government officials it is remarkable that the army ever functioned effectively. Yet it is important to emphasize that there is no reason to believe that Song soldiers were particularly loyal or patriotic, or that they bought into the *ruist* ideology that placed them at the bottom of the social hierarchy.

Soldiers tried very hard to escape the army or to at least work the system to their advantage. Song officials seemed both frustrated and confused by the efforts of soldiers to avoid their awful treatment. Since at least the 11th century historians have tended to read the perspective of Song officials transparently, taking their word that the Song military, its soldiers and officers were solely responsible for every defeat or problem, and someone else was responsible for every victory. The establishment of the dynasty was thus due to the brilliance of the first emperor, or to his reception of Heaven's Mandate due to his transcendent morality.² Since the ruling Zhao family held Heaven's Mandate, and since the highly educated civil officials were obviously moral and wise, any subsequent military failure was the army's fault. At a minimum, the difficulty of obtaining sufficient cavalry mounts suggested that the infantry by itself was incapable of succeeding on the battlefield.

If we do not simply accept the Song officials' view of the Song army at face value and assume that the Song infantry, while having their ups and downs, were similarly capable across the three centuries of the dynasty's history, it becomes clear that both victories and defeats were often due to poor leadership from the emperor and his officials. Emperors and officials planned poorly, underpaid and mistreated the army, and generally failed to maintain the military because they believed it was too expensive to do so. The weakness of the Song infantry is an

2 For the creation of the Song dynasty see Peter Lorge, *The Reunification of China*, Cambridge: Cambridge University Press, 2015.

historiographical construction that obscures rather than informs our understanding of these military formations. To provide some countervailing perspectives, I will frame the issue of the foundation for the “weakness” issue, followed by a discussion of the organization and then the training and weapons of the Song infantry. I will conclude by analyzing the problems that still plague our understanding of the Song infantry, military, and military history.

Original Sin

The campaigns of conquest that created the Song empire did not reclaim a strategic piece of territory around the modern city of Beijing, the Sixteen Prefectures of Yan and Yun 燕雲十六州.³ The Sixteen Prefectures had been ceded to the Kitan Liao steppe empire to the north by the short-lived Later Jin dynasty (936-947) in 938 in return for Kitan aid in overthrowing the Later Tang dynasty. Since that territory had been part of the Tang dynasty (618-907), it was perceived by the Song as rightfully theirs and regaining it as an important symbol of legitimacy. The founding emperor, Taizu, died before he had the chance to try to conquer the Sixteen Prefectures. His successor, Taizong, not only failed in two attempts, but also initiated a war that was only ended by his son, Zhenzong, in 1005. The agreement that ended the Song-Kitan war left the Sixteen Prefectures in Kitan hands and required the Song dynasty to pay an annual indemnity to the Kitan. This was not a glorious end to the Song’s period of empire formation.

As a consequence of this embarrassing final act, the creation of the Song was tainted by military failure. The Song had somehow both succeeded in uniting China and failed militarily. This failure to defeat the Kitan Liao empire and capture the Sixteen Prefectures was transformed into a more general characterization of the dynasty as militarily weak by later historians. Historians during the Song and afterward sought an explanation for why the Song army did not defeat the Kitan army in 1004-1005. The idea that there was some kind of fundamental flaw in the Song army was reinforced by the army’s poor performance in a war with the Tanguts from 1038-42, and again in the 1080s, and then the loss of all

3 See the first footnote in Nap-Yin Lau’s, “Song-Liao Chanyuan zhi meng Xintan,” in *Lishi Yuyan Yanjiusuo Jikan*, vol. 61, part 3 (September 1990), Taipei, 693-747, which cites twenty-two articles in Chinese, Japanese, and English, concerning the Sixteen Prefectures and the Chanyuan Covenant.

of north China to the new Jurchen state in 1127. After 1127, the Song struggled to defend itself from subsequent Jurchen invasions, and then the Mongols, who eventually conquered the Song in 1279.

The common thread for many later historians on the tactical level was that the Song lacked sufficient horses and therefore had insufficient cavalry to defeat a succession of steppe-based groups and their cavalry-centered armies. The Song government did make extraordinary efforts to obtain military mounts, and the results were usually unsatisfactory.⁴ At the same time, however, discussions of policy at court did not revolve around the idea that the dynasty could have succeeded if only it had more horses. It was important to obtain sufficient horses for the army, but the Song army that created the dynasty through military conquest was mostly an infantry force. Most court discussions of the inadequacies of the army were more concerned with finding effective generals and enough soldiers.

Song statesmen were extremely wary of giving generals too much control over large military formations for fear of those generals threatening the security of the dynasty. A very small number of effective generals emerged after the period of conquest ended in 1005. Overall command of important military operations was usually in the hands of civil officials who it was believed would not threaten the dynasty. Unfortunately, most also proved inadequate on the battlefield. After the loss of North China in 1127, the military crisis of impending destruction at the hands of the Jurchen broke the original institutional structures and left command of the armies on the border in the hands of a small number of generals. Those generals proved capable of preserving the dynasty but at the cost of military and regional political authority.

Song soldiers also gained better treatment after the fall of the north, as dynastic desperation finally shifted personnel practices. Undoubtedly Song civil officials and members of their social class did not change their attitudes towards the military, it was only military exigencies that forced them to change their practices. The border running along the Huai and Yangzi Rivers was protected by fortifications manned by infantry and the navy. It was the infantry and the navy, not the cavalry, that held off the Jurchen and then the Mongols. These defensive successes were not ideologically or politically satisfactory, and *ruist*

4 Paul Smith, *Taxing Heaven's Storehouse: Horses, Bureaucrats, and the Destruction of the Sichuan Tea Industry, 1074-1224*, Cambridge, MA: Harvard University Press, 1991.

historians and officials remained frustrated with the Song's military fortunes.

The Song army was always a majority infantry force for both its successes and its failures. Having failed to conquer the Sixteen Prefectures at the end of the dynasty's initial period of expansion, the army was blamed for the poor strategy and policy choices of Taizong, the second Song emperor. Emperor Zhenzong cleaned up his father's mess, but he could not recover fully the strategic position he had inherited. Still the Song army, and thus the infantry, had generally fought well and effectively stymied the Kitan Liao incursions into Song territory. The army was by no means ineffective or incompetent, but it was easy for civil officials to blame the generals and soldiers rather than the emperor or themselves for the outcome of the conflict with the Kitan. Nevertheless, the history of the Five Dynasties and Ten Kingdoms Period (907-960) that immediately preceded the Song, as well as the Tang dynasty (618-907), where strong generals produced political instability, made limiting the power of the army an urgent concern. Song officials blaming the military and the generals for the unsatisfactory military results thus served two purposes, avoiding their own responsibility, and diminishing the political power of the generals.

*Song Military Organization*⁵

The Song dynasty maintained a standing army of professional soldiers. The Imperial Army contained the best troops and formed the apex of a tiered system

5 For a brief overview of Song military institutions in English see, Peter Lorge, "Military Institutions as a Defining Feature of the Song dynasty," *Journal of Chinese History*, Vol 1, Issue 2, 2017, 269-295. For a more extensive perspective see Chen Feng 陳峰, *Songdai junzheng yanjiu* 宋代軍政研究, Beijing: Zhongguo Shehui Kexue Chubanshe, 2010; Chen Feng, *Wushi de Beiai: Beisong chongwen yiwu xianxiang yanjiu* 武士的悲哀: 北宋崇文抑武现象研究, Beijing: Renmin chubanshe, 2011; Wang Zengyu 王曾瑜, *Songchao Bingzhi Chutan* 宋朝兵制初探, Beijing: Zhonghua Shuju, 1983; Michael McGrath, "Military and Regional Administration in Northern Sung China (960-1126)," Ph.D. diss., Princeton University, 1982; John Richard Labadie, "Rulers and Soldiers: Perception and Management of the Military in Northern Sung China (960-ca. 1060)," Ph.D. diss., University of Washington, 1981; Winston Lo, *An Introduction to the Civil Service of Sung China*, Honolulu: University of Hawaii Press, 1987; Edmund Worthy, "The Founding of Sung China, 950-1000: Integrative Changes in Military and Political Institutions," Ph.D. diss., Princeton University, 1976; Liang Tianxi 梁天錫, *Song Shumiyuan Zhidu* 宋樞密院制度, Taipei: Liming Wenhua Shiye Gufen Yuxian Gongsi, 1981; and Fan Xuehui 范學輝 *Songdai sanya guanjun zhidu yanjiu* 宋代三衙管軍制度研究, Beijing: Zhonghua Shuju, 2015.

of troops. Immediately below the Imperial Army were the Provincial Armies, followed by the local militia, and barbarian auxiliaries. The Imperial Army was the only real fighting force, with Provincial Army troops used for labor and as a recruiting and dumping ground for the Imperial Army. The best Provincial Army troops were recruited up to the Imperial Army and soldiers of the Imperial Army who failed their fitness review were demoted down to the Provincial Armies. Local militias were configured to maintain local order, handling policing duties and low-level bandit suppression. Barbarian auxiliaries were first used on the northwestern border with the Tanguts where they were used as guides and scouts for the Imperial Army.

Soldiers of the Imperial Army trained daily to respond to the sound of the drum and received a salary of at least five hundred cash a month. Troops who trained part of the time and acted as laborers part of the time received a salary of less than three hundred cash a month. There were five drills for the cavalry and four for the infantry (sitting, rising, advancing and retreating.⁶ [See below]) At a minimum, there was the intention for Song troops to be well-trained, even if the actuality was likely less than perfect. Song soldiers were expected to be regularly drilled as units with common exercises. They were also supposed to be paid regularly.

The organization of the Northern Song military above the battalion level was a complex system that balanced the need to concentrate forces for attack and defense with the need to disperse forces for supply and internal stability. Internal stability was the primary concern early in the dynasty. Song Taizu's own coup d'état demonstrated the danger of any individual, apart from the emperor himself, holding a unified or near-unified command over the army. Apart from the bifurcation of civil and military responsibilities in the government, the Imperial Army itself was divided into the Imperial Guard and the Palace Corps. The Imperial Guard was later further divided into cavalry and infantry commands. Neither the civil-military division nor the Imperial Guard-Palace Corps split were Song innovations. Indeed, Song Taizu was the Supreme Commander of the Later Zhou Palace Corps before his coup.

As the inheritors of an existing government and army system Northern Song

6 Toqto'a *Songshi*, Beijing: Zhonghua Shuju, 1996, 195.4853.

emperors and their officials stabilized the country through modification of structures rather than radical reorganization. While the administrative and military system was not static over the first century or so of the dynasty, it only underwent dramatic change during the Yuanfeng period (1078-1085). After the loss of north China in 1127, the Song army underwent much more dramatic and chaotic reorganization.

The overall deployment of Song troops was designed to ensure the security of the emperor while also defending the borders. The number of Imperial Army troops stationed at the capital and Imperial Army troops stationed on the border were supposed to be balanced with half at the capital and the other half spread around the empire. The troops rotated between the capital and the border at considerable expense. Troops at the capital trained while troops on the border got field experience. A balance of forces was maintained within the capital to ensure the emperor's safety. That was the primary reason for maintaining the Imperial Guard-Palace Corps division. No general was in a position of overall command, whether inside or outside the capital. Command was further fragmented by leaving the positions at the top of the army hierarchy vacant.

The Song army grew drastically over the course of the dynasty. Some of the early increases, particularly during Taizu's reign, were due to the expansion of the empire. When Taizu founded the Song he inherited about 120,000 troops from the Latter Zhou, probably exclusive of provincial troops. By 997 the total had reached 666,000 and by 1022 the figure was 912,000. Troop numbers peaked at 1,259,000 in 1048, decreasing slightly to 1,162,000 in 1067 and 1,063,688 in 1077.⁷ Even during Taizu's time the difficulty of supplying a large standing army continually in one location was a cause for concern. It was the main reason that Kaifeng became the Song capital. Kaifeng was at the north end of the Bian canal which allowed it to be readily supplied from the south. Taizu wanted to move the capital to Luoyang, but the logistical problems of maintaining the army there were enough to dissuade him. There were also great difficulties in keeping the troops on the border supplied.

The size of the Song army becomes much harder to pin down after the fall

7 Michael McGrath, "Military and Regional Administration in Northern Sung China (960-1126)," 148.

of the north in 1127. After the initial chaos following the capture of the capital, the emperor, retired emperor and much of the court, several regional forces were cobbled together to defend the southern portion of the empire. Even after the dynasty stabilized politically under emperor Gaozong, the central government was in much less direct control over the army and the historical records of the size of the various armies were much less complete. Many local forces were only tenuously connected to the central government, though they served critical local security functions. As Huang Kuan-chung has shown, local forces that functioned effectively at the local level were drafted by the central government to fight on the border where they were not only much less effective but were also destroyed in the process.⁸ The imperial forces nominally under the direct control of the central government likely totaled several hundred thousand, with the overwhelming majority of them posted to the border commands along the Huai and Yangzi Rivers.

The Yuanfeng Reorganization

Particularly after the Song army was unable to defeat decisively the Tangut Xixia state in a border war from 1038-1042, it became an article of faith among Song officials that the army was fundamentally weak. The Song-Tangut war also demonstrated a basic political truth about Song government: that only a military crisis would prompt the emperor to empower fully a group or faction to control the government. Emperors preferred to balance factions within the government in order to maintain power. Consequently, the Qingli or Minor Reforms ended very quickly once the crisis had passed. It was clear to the ambitious, however, that asserting that one had a solution to military weakness was a path to great power. Military weakness was a critical condition for complete governmental power and even opposing political factions agreed, and continued to assert, that the army was fundamentally weak. Unsurprisingly then emperors also came to believe this and soon after emperor Shenzong took the throne he empowered Wang Anshi to implement a dramatic reform agenda.

8 Huang Kuan-chung's series of articles on the Southern Song local forces has been conveniently collected into Huang Kuan-chung, *NanSong Difang Wuli*, Taipei: Dongda Tushu Gongsì, 2002.

One of the primary purposes of the Emperor Shenzong's New Policies was to harness the economic power of the Song state to generate military power.⁹ With regard to the military, the reforms went to great lengths to increase the supply of horses and to shift the burden of defense from the professional army to the militia. While the administration of attached officers and troops remained under the Sanya, unattached officers, previously under the jurisdiction of the Bureau of Military Affairs, now came under the authority of the Right Personnel Office of the President. Civil officials were under authority of the Left Personnel Office of the President. The effects of the change went beyond simplification of personnel administration:

"The impact of the Yuan-feng reorganization on the status of officials of military rank in the civil service may be briefly summarized as follows. Prior to the reorganization, they were set apart from officials of civil rank by their own rank system with its unique terminology and by the fact that they belonged to a different personnel system. The Yuan-feng reorganization imposed a uniform terminology on the rank systems of both the civil and military officials and brought them under the same personnel agency. The barriers that used to separate them were therefore reduced and the psychological distance between them was shortened. On the other hand the Yuan-feng reorganization also had the effect of weakening the ties between the many military rank officials and the military establishment."¹⁰

The reorganization thus raised the status of military officials with regard to civil officials but diluted their martial aspect.

While the higher ranks of the officer corps were being reorganized, the Imperial Army was also being reconfigured. First, the rotation system was abandoned since rotating the troops between the border and the capital every three years was as expensive as launching a major campaign. Second, in 1074 troops were shifted into "Commands" of approximately three thousand men each. A command could be formed from different kinds of troops (Imperial Army, Provincial Army, Barbarian Auxiliary). It trained together as a unit and remained in one location. The changes were supposed to create a better-trained force with strong unit cohesion. But the quality of the troops did not improve significantly

9 Most scholarship attributes the New Policies and their reforms to the Prime Minister Wang Anshi rather than to Emperor Shenzong under whose authority they were implemented.

10 Winston Lo, *An Introduction to the Civil Service of Sung China*, 73.

as far as the sources record. It is possible either that the troops were not as bad as had been imagined, the reforms were simply ineffective, or that the improvements were limited.

The final part of the new military policies was the creation of the *Baojia* system. This system was designed to organize all of the households in the empire into units which would police themselves and maintain a militia.¹¹ Ultimately the militia was supposed to become a real fighting force and replace the expensive professional army. As a militia it would be almost exclusively an infantry force. While the organization of households took place, the military value of the militia produced is unclear. Indeed, part of the attraction for “returning” the main forces of the dynasty to a militia system that had previously obtained at various points in Chinese history was moral. For Wang Anshi and many *ru* the ideal of the farmer-soldier was as important as the budget savings. The *Baojia*-based military would be cheaper and fit the *ruist* ideal. It also had the added bonus of being inherently, at least in Wang’s mind, non-threatening to the dynasty’s internal security.

The reforms did not, however, demonstrably improve the Song’s military situation. On the surface the policies seemed reasonable. They would increase the supply of horses and tremendously increase the number of soldiers while at the same time decrease the economic burden on the state. But as Winston Lo pointed out: “There is no question that these innovations in the structure and deployment pattern of the army did not work as well as they were expected to. Inadequate provisions for monitoring the performance of the new system, together with the general malaise of the dynasty during the reign of Emperor Hui-tsung, contributed to the military debacle.”¹²

The contribution of the reforms and of a general malaise under Huizong to the Northern Song military collapse in 1126-27 is, in fact, not provable. The “decline” of the Northern Song army is really a tautology inasmuch as it lost to the Jin because it had deteriorated and its loss to the Jin proved it had deteriorated.

11 The *Baojia* system was later also seen as a system of internal policing and mutual responsibility. Partly this is because that aspect of it might have been more effective than its hoped-for battlefield function, and because the mutual responsibility system reappeared repeatedly in subsequent centuries.

12 Winston Lo, *An Introduction to the Civil Service of Sung China*, 77.

rated. What the reforms do show is what some Song officials believed were the army's problems: insufficient horses, poor training, lack of unit cohesion and great expense. All of these problems were addressed, but to whatever extent they succeeded or failed they did not improve the situation.

What has never been examined, however, is the possibility that the reforms did improve the quality and functioning of the military, but that those improvements were not sufficient to preserve the dynasty in the face of incompetent strategy and a powerful enemy. To reframe a well-known intelligence saying, for the Song a military campaign was either a leadership success or a failure of the soldiers.¹³ By the nature of the bureaucratic and ideological framework of *ruist* officials it is impossible to attribute military failure to the strategic and leadership errors of the emperor or his *ruist* officials. Military failure was the result of bad soldiers and insufficiently brave officers. Since most of the soldiers were infantry, the military failings of the Song were the failings of the Song infantry.

Weapons and tactics

As a centralized bureaucracy with a fully bureaucratized army the standing army had a regular system of training, tactics, and weapons. Weapons were supplied by government armories that produced uniform equipment to established standards. These same armories also produced gunpowder and gunpowder weapons through the 10th and 11th centuries, and guns in the 12th century. Gunpowder weapons and guns must be seen as part of the broader system of weapons production in the Song. Standardized Song tactics mentioned in the *Songshi* predated the deployment of guns indicate an early expectation of volley fire. At least in the Song case, then, coordinated volley fire predated the adoption of guns. Unfortunately, we do not know if Song troops used volley fire with guns, but it seems likely.

The military section of the *Songshi* touches upon a series of infantry and cavalry exercises which are unfortunately undated. The *Songshi* was compiled in the late 13th century during the succeeding Yuan dynasty from Song documents gathered and edited during the Song. Many of the documents collected for pres-

13 The intelligence saying is that "there are either operational successes or intelligence failures."

ervation during the Song were lost after the government fled to the south, and in the wars that ended the dynasty. The exercises were most likely from the earlier part of the Song dynasty since they do not mention guns, which came into general service in the 12th century. It is possible that these exercises carried over from the preceding Five Dynasties and Ten Kingdoms period into the early Song, which would explain the later discrepancies between those exercises and the exercises in the 1044 *Wujing Zongyao* (*Comprehensive Essentials from the Military Classics*). Song history writing, like most professionally written histories produced by the succession of historical bureaus in dynastic governments, strongly focused on institutional developments. Even privately produced histories were usually written by government or former government officials who were intensely interested in the institutional structures they experienced. Consequently, there is more detailed information on parts of the institutional structures of the Song army than on its battlefield performance. Most battles are only listed as having been won or lost even when the exact titles and ranks of the commanding officers are provided. At the same time, different texts explain institutions at different times and therefore do not match up.

Infantry Exercises

The daily exercises section of the *Comprehensive Essentials from the Military Classics* for the infantry lays out the exercises as follows: “In the first infantry exercise one hundred and eighty-eight infantry and twenty-seven cavalry soldiers made one formation. At the sound of the first drum the spear and swordsmen stood. At the second drum the spear and swordsmen and crossbowmen all sat and the bowmen stood and fired volleys of arrows just as in the first cavalry exercise.

In the second infantry exercise one hundred and eighty-eight infantry soldiers made one formation. At the sound of the drum those holding flags left the lines and went forward to establish the boundaries. When the first drum sounded the spear and swordsmen stood. At the second drum the spear and swordsmen all sat, and the bow and crossbowmen stood and fired three volleys. The drum sounded again, and they advanced a little and fired another three volleys. The drum sounded and the front line dragged forward the spearmen and advanced. The bow and crossbowmen followed until they reached the point

where the boundary flags had been set up. When they heard a drum the spear and swordsmen stood up. At the next drum the spear and swordsmen sat down, and the bow and crossbowmen stood and fired three volleys. At the next drum the spear and swordsmen again stood up and brought their spearheads upright. At the sound of the gong, they retreated to their old place and stopped. At one drum the spear and swordsmen stood. At the second they sat and unfurled the flags. At the third they again stood. At the fourth the spears and flags returned to the way they were. Then the drums stopped.

The third exercise was like the second in the number of soldiers and the advancing and retreating. However, the bow and crossbowmen each fired one volley. Apart from that there was no difference.

The fourth infantry exercise was just like the third.”¹⁴

It is readily apparent that the numbers given in other parts of the text regarding unit size conflict with the numbers of soldiers involved in the daily exercises. This raises the important question of whether the daily exercises were more parade ground performance than battlefield preparation. The number of soldiers required to perform a given exercise can be neither simply multiplied to nor evenly divided from standing troop units. This limits the conclusions we can draw about the tactics of the Song army. Several facts are clear, however, most obviously Song soldiers were trained to respond to the sounds of drums and gongs. They followed flags and their leaders advanced with those flags into battle at the head of their units. Cavalrymen were trained in archery and spear fighting and they were trained to fire both to the front and rear while moving. Infantrymen may have been more specialized in their skills. No provision was made for soldiers to switch positions (from archer to spearman, etc.), as the cavalry did, in the course of practice. A line of spearmen was required to protect the archers. Provisions were made for different mixes of bow, crossbow and spearmen.

Archery, either with a bow or a crossbow, was the predominant skill practiced by Song soldiers. All cavalrymen and most infantrymen were archers. Infantrymen used crossbows slightly more often than bows. Crossbowmen always stood in front of bowmen. No provisions were made for different rates of fire for bows and crossbows. The *Comprehensive Essentials* lists four kinds of

14 Zeng Gongliang, et. al. (eds.), *Wujing Zongyao*, in *Zhongguo Bingshu Jicheng*, Beijing: Jiefangjun Chubanshe, 1988, Vol. 3, 93-100.

bows and six kinds of crossbows. There were six kinds of arrows, including fire arrows using gunpowder, for the bows and five kinds of bolts for the crossbows. Although new varieties of crossbows, like the Divine Elbow Bow, were invented later in the eleventh century, Song soldiers relied solely on leg, back and arm strength to span the weapons. No mechanical devices were used to enhance their strength even though winches were used on the larger, siege crossbows.

There were two different groups of spears available, one set of three very long spears and one set of nine shorter ones. The longer spears ranged from 5.544 meters to 5.775 meters in length. Their use appears to have been restricted to siege operations. The shorter set of nine spears are described as “several feet long.” The first three were used by cavalymen. The text notes that the Man tribesmen in the south used spears one-handed and threw them accurately within several tens of paces, one pace being approximately 1.15 meters. Presumably, in contrast, Chinese soldiers expected to wield their spears with both hands. All but one of the spears had some kind of point or knob on its butt. A true double-ended spear is also listed amongst the swords and axes section. It appears to have been particularly short.

Song infantry must also be connected to the invention of the gun. The gun was invented in China during the 11th and 12th centuries. The Song government not only produced enormous quantities of gunpowder during the 11th century but also produced a variety of gunpowder weapons including the “true” gun in the early 12th century. These early gunpowder weapons and guns were predominantly weapons of the infantry, used both on the battlefield and in siege warfare. Gunpowder weapons also played a role in naval warfare. The limitations of early gunpowder weapons, their low rates of fire, inaccuracy, and short range and time of effects, made them less effective in defending against cavalry armies in the open terrain of North China. They were considerably more effective during sieges and the constrained terrain in south China.

Even before the invention of the gun itself gunpowder was an important military commodity. The Song government prohibited the export of sulfur and saltpeter outside the empire showing not only its importance but also that it was valued by the Song’s opponents in the steppe. Gunpowder production increased in the 11th century to the extent that the government imported some 660,000 pounds of sulfur from Japan in 1083 to make up for insufficient local supplies. These shipments were arranged in the midst of the Song-Tangut War suggesting

that gunpowder weapons were being used at a rate that was significantly using up supplies.

If gunpowder weapons were used against the Tanguts during that war, knowledge of their effects and use would have been widespread in the steppe well before guns were invented. Less clear is when the knowledge of how to produce gunpowder became widespread. Gunpowder weapons did not, however, provide such a great advantage that Song infantry were able to win reliably against the Kitan Liao, Tanguts, Jurchen, or Mongols. It would take centuries of gradual development in Europe for guns to provide infantry with a decisive advantage over cavalry. In this respect, as in so many others, Song infantry were ahead of their time even if the development of military technology lagged.

Conclusion

Generalizing about the Song infantry in a manner consistent with modern Western military history is nearly impossible. The primary sources do not focus on the infantry as distinct from the cavalry because those respective arms were not socially divided within Chinese society as they were in the West. The major division was between Chinese and steppe armies, with steppe armies being primarily cavalry forces and Chinese armies primarily infantry forces. Steppe armies and steppe polities more generally were seen by the Chinese, not without reason, as being more fundamentally martial in their cultures and their daily practices. When all adults male and female rode horses and shot bows it was relatively easy and cheap to form a fast-moving, reasonably effective army on short notice. Obtaining sufficient horses and thus cavalry was a constant concern for the Song dynasty. However, the Song army conquered most of what had been the Tang empire with its largely infantry army. It fought and often defeated steppe armies with its primarily infantry army.

The farmer-soldier was an ideal in *ruist* ideology and the apparent failure of that ideal in the face of Song dynasty reality deeply biased Song dynasty sources. Song China was an incipient modern state economically, bureaucratically, and technologically.¹⁵ It was *ruist* ideology that lagged behind developments in

15 Robert Hartwell, "A Revolution in the Chinese Iron and Coal Industries During the Northern Sung, 960-1127," *Journal of Asian Studies*, 21 (1961-62), no. 2, 153-62; "Markets, Technology and the Structure of Enterprise in the Development of the Eleventh-Century Chinese Iron

the 11th century and failed to accommodate the society and military of the Song. Civil dominance was not inherently antithetical to military power, but the education of Song officials made it difficult for them to see their army in anything like a realistic way. *Ruist* officials could not see their paid, professional soldiers in anything but a negative light, or regard their own cultural perspective as anything other than a universally held position.

If we set aside the ideological framework underlying Song statesmen, Song historians, and later historians (including modern Western ones) then our understanding of Song infantry gets very complicated. Rather than a consistently unreliable and incompetent force we merely have a professional standing army that sometimes succeeded and sometimes failed. Tellingly, the attempt to replace that force with a *baojia*-based militia did not work. In 11th century China farmer-soldiers were not as effective as the professional army. In the 12th and 13th centuries professional forces led by professional generals on the border were successful for a century and a half in holding off first the Jurchen and then the Mongols. Local militia forces that were effective in keeping local security, proved ineffective when forced to fight on the border.

Song statesmen were unwilling to treat soldiers humanely or to pay them well but could not seem to accept that this was why they had difficulty recruiting sufficient soldiers. Despite all of the limitations on the army, however, it still won a lot of battles over three centuries. The Song army was mostly an infantry army supported by a centralized, bureaucratic state, but it was still part of Song society. Song infantry were the first soldiers in history to use gunpowder weapons, firearms, and true guns in general and in battle as part of regular units in particular. They were the most technologically advanced and even “modern” in most senses army for centuries to come. Sorting out these conflicting characteristics of the Song army and infantry remains an incipient topic for military history.

and Steel Industry.” *Journal of Economic History* 26 (1966), 29-58; and “A Cycle of Economic Change in Imperial China: Coal and Iron in Northeast China, 750-1350,” *Journal of the Economic and Social History of the Orient* 10 (1967), no. 1, 102-59.

Infantry in the Eighteenth-Century European World

by JEREMY BLACK

To produce a chapter for a book on infantry highlights, or rather should highlight, questions of relative importance. This is particularly the case because I have recently edited for this series a book on cavalry in which the significance of the latter is discussed and supported. Moreover, this support in that volume is not least for periods after the European 'Middle Ages', in other words when cavalry is not generally to the fore. But, irrespective of the point that many knights fought on foot, such questions, in this case infantry versus cavalry, can be falsely posed, as more generally with the analysis of issues in military history. In particular, to argue that one combat 'arm' is more significant, indeed 'superior', a commonplace approach, is unhelpful. It is a reflection of the misleading, neo-Platonic, sense of warfare in any one period as having an 'Ur' or essential state and capability. Clearly-calibrated relative strengths are then derived from this assertion, and, subsequently, reified and used for analytical purposes and to construct narratives of improvability, diffusion and improvement: improvability is not always the same as improvement, although there is generally an assumption that one leads inevitably toward the other.

Moreover, that approach proceeds by arguing that there are readily-apparent moves from one such period to another. In practice, the cause, course and consequences of these shifts can be debated, and, moreover, are discussed, with an emphasis, variously, on weaponry, force structure and type of army. There is frequent attention to particular armies and/or states held to represent a paradigm form and model, for example France under Louis XIV (r. 1643-1715) and Napoleon (r. 1799-1815), and Prussia under Frederick the Great (r. 1740-86) and in the German Wars of Unification (1864-71).¹ Weaponry, tactics, doctrine,

¹ J.A. Lynn, 'The Evolution of Army Style in the Modern West, 800-2000', *International His-*

organisation and force structure are all then seen in this light, both for these states and for others, the latter being diminished accordingly. There is a parallel approach in naval history, and if the same power, Britain, had the leading navy, from the 1690s to the early 1940s, it developed in part on a challenge and response model.

Linked to this, comes the progressivist, if not teleological, sense of military history as a race, with certain armies (and navies) held to be deficient because they did not 'embrace' change with sufficient determination, speed, consistency, thoroughness and/or understanding. This deficiency is then deployed to explain failure, without sufficient (or sometimes any) understanding of the role of other factors, whether in framing, encouraging or discouraging choices; or in explaining the particularities of success and failure. Aside from the dominant element of contingency (itself multifaceted), these factors range from tasking and social structures in the first case, that of choices; to command and terrain in the second, that of particular successes; but with much also included. In this context, nevertheless, we apparently still 'move', at least in most accounts, from cavalry to infantry in period x, or even at date y, or thanks to such a weapon, most particularly the flintlock musket carrying a bayonet, but with earlier and later firearms also playing a role.

Yet, however attractive and, indeed, convenient this approach may be, it does violence to the range of factors bound up in capability both for armies as a whole and for infantry, and also underplays the range of tasks that infantry can be expected to discharge or, indeed, ignores that factor when discussing the situation. Even if restricted to firepower, the use of gunpowder weaponry was not just a matter of the employment of individual weapons, and the accumulated technology thereby represented, but also of the particular techniques developed, which, in the sixteenth century, included concentrating firepower in order to ensure danger and, eventually, practising volley fire. That, in turn, can be differentiated in terms of the particular units employed, most notably platoons or lines.²

All-too-often the discussion of relative (and indeed relevant) capabilities fo-

tory Review, 18 (1996), pp. 505-45.

2 R. Campillo, 'The development of new infantry tactics during the early eighteenth century: A computer simulation approach to modern military history', *Journal of Simulation* (Jan. 2013), DOI: 10.1057/jos.2012.25.

cuses on particular battles that in part accordingly become significant militarily as well as iconic, as with Robert Clive's victory over the Nawab of Bengal in Plassey in India in 1757. This is emphasised as opposed to the larger-scale battle between the Afghans and Marathas at Third Panipat in 1761, on which see Kaushik Roy's contribution. In the case of infantry, this iconic status is particularly so with the defeat of the English at Bannockburn (1314), and of the French at Crécy (1346) and Agincourt (1415).

Gunpowder weaponry succeeds to this role, as with the Habsburg/Spanish victory over the French at Pavia (1525). Furthermore, in the conventional literature on the 'Gunpowder Empires' and the putative 'Early Modern Military Revolution', other battles are deployed accordingly, with the same choices then acquiring normative status, in part due to the particular analysis advanced.

That approach, as noted in the Cavalry volume, is less appropriate, however, as a description of the variety of military environments around the world. This is a variety that cuts across any attempted single definition of military characteristics in a particular age. Within the diversity of Europe, this approach also downplays the different roles of particular arms: on battlefields, on campaigns, and in other military tasks, which included much of what would now be covered by, and as, policing. In this range, cavalry and infantry were both important, whereas artillery was far less so for the third category.

Considering only Europe, there were, as has been widely discussed, also a greater tendency to employ cavalry in Eastern Europe and with a corresponding particular context for infantry. The focus on cavalry in much of Eastern Europe was for socio-cultural as well as more narrowly functional reasons; in so far as these can be separated, for each apparently confirms the other or can be advanced accordingly.

Allowing for these points, infantry was of considerable salience in eighteenth-century Europe. It provided mass, firepower, and a fitness for purpose for many tasks whether or not these are defined today as military. For example, whereas garrisons did not have to have cavalry, they centred on infantry even more than artillery. Although cavalry could charge down nineteenth-century boulevards, the internal policing of towns that was a prime function of garrisons was far more successfully fulfilled by infantry, as with the British use of troops in Boston in 1768.

In battle, infantry was far from the less impressive arm. Thus, in the eighteenth century, infantry could protect artillery more than the other-way-round, and this was especially true of cannon placed to the fore of units, as by the British at Waterloo in 1815: the gunners fell back into the infantry squares when the French advanced. This protectiveness by infantry in battle and in other circumstances was even more the case if the situation at night, or in poor light, or in poor weather, was considered, and, today, it is underlined in response to swarm attack techniques.

An additional point about infantry that tends to be overlooked is its role in naval conflict. Infantry, whether or not designated separately as Marines for the organisational reasons of command structures, was far more important at sea than was to be the case by the mid-nineteenth century, by when the firepower and destructiveness of naval artillery had increased. Prior to then, ships were not usually sunk by naval gunfire but, rather instead of or, as part of such exchanges, captured by means of boarding, a process that involved troops afloat. To that extent, the naval warfare of the French Revolutionary and Napoleonic Wars (1792-1815), the last of the major naval conflicts before the Age of Steam began, was not as different to that of the First Punic War (264-241 BCE) as might be assumed in light of the introduction of cannon at sea. In contrast to the emphasis on cannon, much of the firepower at sea was provided by archers and, later, musketeers. River conflict, as on the Danube, further demonstrated this point about continuity, although there was less such conflict there in the eighteenth century than in the seventeenth.

Separately, on land, the eighteenth-century battlefield was defined not so much by large and decisive but infrequent clashes, such as Blenheim (1704) or Jemappes (1792), important as they were, but rather by the more frequent smaller-scale clashes. In many respects, in addition, the latter helped shape campaigns and 'place' larger battles, not least by affecting the establishment of and movements on supply lines and by putting detached contingents at risk.³

Furthermore, the impact of battles, however clearcut the immediate consequence, could be challenged by the ability of infantry manning fortifications to

3 G. Satterfield, *Princes, Posts, and Partisans: The Army of Louis XIV and Partisan Warfare in the Netherlands, 1673-1678* (Leiden, 2003).



Fig. 1. *'The Glorious Action of Dettingen June 27 N.S. [16 O.S.] between the Forces of the Allies and the French Army under Marshal Noailles commanded by King George of Great Britain'*. Coloured line engraving by I Pano after F Daremberg, published by Robert Wilkinson, London, 1743 (c). National Army Museum, out of copyright.

delay or prevent exploitation or had to be secured by infantry attacking them. This was clearly seen with the French success in using fortresses to lessen the consequences of defeat by Anglo-Dutch-German armies at Oudenaarde (1708), Malplaquet (1709) and, without a Dutch contingent, Dettingen (1743). This was more generally a feature of conflict and capability, and provided infantry with a delay capability that was not present on the battlefield, for most battles lasted only for part of a day. There were battles that were 'decisive' in the case of a rapid victory, as with the British victory over the French at Quebec in 1759, a battle, crucially, made more significant by the subsequent speedy French surrender of the city. Similarly, after Waterloo, there was no delay function on the Anglo-Prussian advance, in part because the French were in no position to hold the line of the nearby Meuse which they had crossed northwards three days earlier, but also due to their subsequent failure to hold fortified positions such as Peronne and Laon. Similarly, the Germans failed to hold the Seine in 1944.

Cultural norms affected the perception of the usage of infantry. Thus, withstanding sieges, whether successfully or unsuccessfully, was not generally cast in a glamorous light, though it was for Rhodes in 1522, Vienna in 1529 and 1683, Malta in 1565, Turin in 1706, Saragossa in 1808, Belfort in 1870-1, Verdun in 1916, and Leningrad in 1941-4. As Vienna in 1683 and Turin, however, indicated, far more glamour was attached to the relief army than to the besieged force. This was particularly so in these cases as there was royal and princely leadership for the successful relief forces, the leaders portrayed as horsed. This was an aspect of a longstanding practice in which conflict before the walls proved an exalted pattern of equal bravery and exemplary conduct. This was a pattern set by Homer's *Iliad*, or in the defeat of a besieging Seljuk army before Antioch in 1098, a battle in which the Crusaders allegedly saw St George, St Mercurius and St Demetrius in their ranks. Similarly, allegedly angelic figures, frequently presented as archers reminiscent of Agincourt in 1415, helped to protect the British against the attacking Germans at Mons in 1914.⁴

Cultural norms were related to social assumptions and practices. The nature of society in the eighteenth century gave greater prestige to the horse-borne, whether commanders, cavalry or infantry officers. Furthermore, there could be significant legacy factors in the relative prestige of arms and units, as was seen in particular with the French army irrespective of the far greater numerical proportion of infantry in its ranks. A different aspect of legacy prestige was the differentiation of infantry and artillery officers in terms of their carrying swords. Yet, that situation did not preclude particular infantry units from enjoying prestige. This was notably so as a result of designation, both in terms of seniority and with regard to providing guard functions for the ruler, such as the Imperial Guard under Napoleon.

There were also political and functional reasons why infantry were especially significant in some states, notably Britain and the United Provinces (the Dutch). Given the constitutional character of the former after the 'Glorious Revolution' of 1688-9, and the republican nature of the latter, notably when the key province of Holland lacked a *stadtholder*, in 1650-72 and 1702-47, the argument might be that, in some way, the states with a weaker monarchy were particularly prone to infantry.

4 D. Clarke, *The Angel of Mons: Phantom Soldiers and Ghostly Guardians* (Chichester, 2004).

This argument could be pursued further by reference back to the Swiss and their pikemen, and then further amplified by reference to the American Patriots/Revolutionaries and to the French Revolutionaries. Napoleon, in contrast, provided more opportunities for artillery and cavalry. This thesis can be given a further progressivist character by seeing Britain and the United Provinces as *bourgeois* or 'advanced' societies and, more generally, arguing that there is a pattern of social formation in, and also as a consequence of, force structure.

That, however, is an approach that lacks nuance. For example, there were also environmental and functional factors that were significant and specific. Thus, although home defence against invasion remained important, notably in the case of the Jacobite rebellions of 1715-16 and 1745-6, the British army was different to those of Western Europe in that crossing the sea was a central requirement. This was easier, less dangerous, and less costly for infantry than cavalry.

Furthermore, in tactical and operational terms, infantry could more readily act when reaching the coast, not least in the face of contested landings, or their aftermaths, as faced by British due to French opposition at Louisbourg in 1758, Québec in 1759, and in Egypt in 1801, and/or possibly contested landings, as for the British in the face of Patriot opposition round New York in 1776 and Charleston in 1780. The situation remains the same at present as far as infantry when compared to armour.

For the Dutch in the eighteenth century, the 'functionality' of infantry was more clearly linked to the dominance of fortified positions, both in their defence, for example Bergen-op-Zoom and Maastricht, and also in the nearby areas of operations in Belgium and the Rhineland, a dominance that pushed garrison duties and siegecraft to the fore. Away from the Rhineland, the German lands to the east of the Dutch were different, but, despite sustained Dutch interest in East Friesland, these were not key areas of Dutch concern and influence. Fortress defence and siegecraft were the major Dutch military requirements. This encouraged a focus on infantry, as did the recruitment background of a society that was more urban than elsewhere in northern Europe.

In these and other respects, functionality and socio-cultural factors were linked and mutually dependent. The former was changed for infantry by the rapid demise of the pike in the 1690s and 1700s as a consequence of the diffu-

sion of the bayonet. This change led to a marked aggregate increase in infantry firepower, an increase not matched then by any comparable change in artillery. Moreover, due to political, governmental, social and (especially from mid-century) demographic changes, the overall numbers of troops in several states rose significantly during the century, including particularly in the forces of Austria, Prussia, Russia and, in the 1790s, France; although less so for other German states and for Spain. This increase meant greater opportunities for sustaining infantry casualties and continuing to act, even if greater numbers also ensured problems with supply and in the coordination of forces, both in battle and on campaign.

This firepower helped make battle more deadly, as at Malplaquet in 1709 and Fontenoy in 1745, and, linked to this, more attritional. The firepower also encouraged the development of infantry formations and tactics that were intended to lead to the rapid crossing of the 'killing ground', in order either to close with the enemy or to approach them sufficiently closely to induce them to retreat. The theoretical writings of French commentators and participants from the 1720s, including Marshal Saxe, as well as the oblique attack of Frederick the Great (r. 1740-86),⁵ and, also, the dispersed columns used in the last stages of the Seven Years' War (1756-63) and, more consistently, by the French Revolutionaries, were all instances of this engagement.

The return of mobility to the battlefield was designed to provide a battle-winning capacity to the mass provided by the infantry, and also a shaping to the limited flexibility of an advance in line. Mobility also served to counteract the heavily-attritional character of a long firefight and its frequently indecisive character. From this perspective, there was a similarity to the shift to warships advancing to break the line from the late eighteenth century, as opposed to relying on cannon exchange from parallel lines, and also to the need for tactical innovation during World War One in order, as was eventually successfully shown by the Allies in 1918, to acquire an operational capacity able to fulfil strategic ends.

There is a continued tendency to concentrate attention on Frederick the Great, seeing him as an agent of change introducing rationality and reaching

⁵ Recently presented by Marco Mostarda as an inspiration for the strengthened right wing of the Schlieffen Plan, review of T.G. Otte, *Leuthen* published in *NAM*, 6 (2025), p. 625.

the zenith of eighteenth-century warfare.⁶ That is a view, however, that underplays the achievements of other contemporary commanders and also, in diachronic terms, has a parallel in the misleading emphasis on the ‘Enlightened Despots’, rather than monarchs a generation earlier.⁷ Moreover, as later with Napoleon, the standard focus on Frederick has to take note of the limitations of his warmaking, some of which related to the use of infantry although there were also weaknesses in his cavalry and artillery. Not yet organised in divisions or corps, the armies of Frederick’s time were clumsy instruments, while there were few commanders of detached armies or forces who were psychologically prepared for independent decision-making. That Frederick frequently lost more men than his enemies, even in his victories, from Mollwitz, a precarious victory in 1741, on, compounded another organisational issue: namely that his tightly-disciplined troops could not be unleashed in a headlong pursuit without the danger of the units becoming less coherent or even disintegrating because of desertion as soon as they were out of sight of their officers. Separately, the focus, with Frederick, on battle can underplay the significance for his campaigning of sieges and, differently, of blocking positions.

Frederick can be presented as pushing to the boundaries of what was possible within eighteenth-century warfighting doctrines, while Saxe allegedly did not – ‘Fontenoy (1745) or Lawfeldt (1747, also spelt Lauffeld) are not the same as Rossbach or Leuthen (both 1757)’,⁸ the latter two Frederick’s victories. However, this view can be challenged, not least by asking why this claim of pushing the boundaries also does not address Russian developments which, indeed, receive insufficient attention as a whole in the discussion of eighteenth-century European warfare, both land and sea.

At any rate, to consider just Frederick and Saxe, each was very good. Yet, despite Frederick being willing to accept and exploit risk,⁹ Saxe was more impressively reflective on war and battle. Criticising reliance on firepower alone, Saxe advocated a combination of individually-aimed fire and, on the other hand,

6 T.G. Otte, *Leuthen* (Oxford, 2024), pp. 28, 117.

7 J. Black, *Eighteenth-Century Europe* (2nd edn, Basingstoke, 1999).

8 Otte to Black, email, 14 Ap. 2025.

9 A. Storr, ‘Subjective practices of war: The Prussian army and the Zorndorf campaign, 1758’, *History of Science*, 60 (2020), <https://doi.org/10.1177/0073275320958950>.

shock attacks with bayonets, each of which were linked to his stress on morale and looked toward the methods of the French Revolutionaries. The battles in which Saxe took part in 1745-7 involved large numbers of troops: up to 215,000 at Roucoux (1746)¹⁰ and 200,000 at Lawfeldt (1747). The fluidity of the fighting, and the extent to which each battle was a combination of a number of distinct, but related, struggles, were scarcely new, but placed a premium on an ability to control large numbers effectively in both attack and defence, and, as part of that, to manoeuvre infantry, and thus increase their impact, rather than maintaining them in static firing formations.

Separately, yet also as a related point, there is a tendency to argue that there was a universality of practice in eighteenth-century European battle conduct.¹¹ However, this approach (one also seen for other cultures) underplays the variety or rather variations, not only those that were task-based, geographical, topographical and chronological, but also with reference to activity in battle. With reference to the latter, a key element of variety was provided by timing. The longer the battle, as at Leuthen (1757) and, more impressively for infantry, Minden (1759), or at Guilford Court House (1781) and Salamanca (1812), the more the chance that it would include differing stages with altered positions and/or formations, and much greater demands on both troops and commanders. This culminated at Leipzig (1813), a battle of several days. In contrast, shorter battles, such as Rossbach (1757) and Quebec (1759), were less complex.

Firepower and shock could be in synergy rather than opposites. Furthermore, there was a need for infantry to be able to offer and suggest both. Whichever of firepower and shock was employed at particular moments, an emphasis, whether on offensive efficacy or on effectiveness in causing casualties, was not as significant as a unit remaining able to act and tractable to its commander while receiving casualties. That, indeed, was the real point of drill and discipline: to prepare a unit to remain in action in the face of death, regardless of casualties, so that resolve was combined with tactical and operational effectiveness on the battlefield and after. This was a central aspect of the close-knit network of discipline, training, unit cohesion, tactical rules, and customs. This was a network

10 M. Lambotte, *La Bataille de Rocourt: 1746* (Paris, 2000).

11 A. Burns, *Infantry in Battle 1733-1783* (Warwick, 2024).

that was important to the life and operation of regular infantry. Tactical usage stemmed from these cumulative factors, rather than being a sole cause or consequence of particular developments.

Yet, it is also appropriate to qualify the idea of a return of mobility on the eighteenth-century battlefield, in part because the idea is more an aspect of an argument, by both contemporary commentators and subsequent scholars, for a dialectic of continuity and change, rather than a discussion of practice. Furthermore, this dialectic can be a product of the misleading established prospectus of treating the *ancien régime* as somehow redundant and anachronistic, and thereby as requiring a shock to move forward or to be moved forward.¹²

This approach builds into a rhythm, with transformation and change during the supposed European Early Modern 'Military Revolution', followed by relative stasis before new transformation. Such a portrayal is a misguided account of the trajectory of development. The approach also is generally unfounded for the *ancien régime*, and certainly underplays the general capacity of the *ancien régime* army to deliver decisive battles and campaigns, for example the Russian triumph over the Swedes at Poltava in 1709, the Russian advance to Warsaw in 1733, or the Spanish victory over the Austrians at Bitonto in 1734 and the subsequent conquest of Naples and then Sicily. An aspect on redundancy also downplays the possibilities of the cavalry-infantry combined arms battle, with cavalry victory on the wings a crucial part of the whole, as at Rocroi in 1643 and Naseby in 1645.

So also with the already existing possibilities for infantry assault. Any emphasis on the supposed immobility of seventeenth-century infantry needs to address the attacking possibilities presented by 'push of pike' and the long-established ability of pike units to advance and attack. In many respects, the infantry attacks of the seventeenth century prefigured the chequer-board advancing formations of the Russians successfully adopted to fight the Ottomans in the eighteenth century.

This ability of infantry to advance and attack was taken forward as the pike became less prominent and, in the end, was replaced. Thus, at Blenheim in 1704, the British infantry was used on the Allied left to mount a major assault

12 Black, *Eighteenth-Century Europe* (2nd edition, Basingstoke, 1999).

on the village of Blenheim, drawing in the French reserves and weakening the French centre, preparatory to a breakthrough attack there. The pattern of repeated assaults creating a weakness that could then serve for such an attack was also seen, deliberately or, more commonly, by happenstance, at other battles, and in other periods, such as the British victory over a German-Italian force at El Alamein in 1942. At Fontenoy in 1745, the British infantry advanced as the major Allied battlefield force, albeit without breaking through due to the strength of the well-conducted French defence, which was able to fire from front and flanks.

More generally, far from Frederick the Great opening up a new capacity for infantry assault, it had already been plentifully in display in the battles of the Wars of the Spanish (1701-14) and Polish (1733-5) Succession, and, in the 1740s, was also seen with Saxe's victories in 1746-7. Furthermore, Frederick's use of the oblique order was not without precedents. Elements of the Highland charge, especially the 'cluster' or 'wedge' designed to hit at a particular point in the enemy's line were relevant, as also the use, for example in the War of the Spanish Succession, of strengthening a wing of an army. Influenced by French generals of the reign of Louis XIV,¹³ Frederick also was a keen reader of Jean-Charles, Chevalier de Folard, a soldier who became a military historian and produced four books accordingly in 1724-39,¹⁴ while the idea of the oblique order has also been traced to the seventeenth-century work of Raimondo Montecuccoli.¹⁵

This point about the significance of infantry attacks can be taken further by assessing the Jacobite challenge in 1745-6, which is very much against the direction of scholarly attention in European warfare. It is all-too-easy to treat Jacobite warmaking as primitive, which indeed is the general tendency in the

13 A. Storning, "'The Age of Louis XIV': Frederick the Great and French Ways of German War", *German History*, 38 (2020), pp. 34-46.

14 J. Chagniot, *Le Chevalier de Folard* (Paris, 1997); A. Storning, "'Our Age': Frederick the Great, Classical Warfare, and the Uses and Abuses of Military History," *International Journal of Military History and Historiography* (2021), <http://www.scopus.com/inward/record.url?eid=2-x2.0-> Among earlier works J. Colin, *L'Infanterie au XVIII^e siècle: la tactique* (Paris, 1907) and Bacquet *L'Infanterie au XVIII^e siècle: l'organisation* (Paris, 1907) and, more recently, B. Bouget, *'De peu d'effet': Le fusil et le combat d'infanterie au XVIII^e siècle (1692-1791). Molèles, tactique et efficacité* (thesis, Paris-Sorbonne, 2013).

15 Mostarda, review of Otte's *Leuthen*, *NAM*, p. 626, fn. 10.

discussion, with final Jacobite defeat by defensive British firepower at Culloden in 1746 supposedly demonstrating this point and again showing the potential decisiveness of eighteenth-century battle.

Yet, this defeat does not help explain the earlier Jacobite victories, at Sheriffmuir in 1715, Prestonpans in 1745 and Falkirk in 1746. Indeed, although the contexts and course of each victory was different, each battle demonstrated the weakness of regulars and the potential of infantry attacks.¹⁶ Separately, these battles call into question the standard litany of battles judged worthy of discussion, and thus the causes, context, course and consequences of the discussion.

Prestonpans, fought on 21 September 1745, was particularly instructive as it was a battle fought near Edinburgh between roughly similarly-sized armies, of 2,400 men, and with infantry to the fore. The battleground was flat and marshy, protected by the Firth of Forth to the north and a deep morass to the south, whose potential as an obstruction was enhanced by ditches. The commander of the regular/royal/British/Hanoverian army (the choice of name is both indicative and suggestive of views on a struggle that was a civil war as well as a rebellion), Sir John Cope, drew up his men facing west, the direction of Edinburgh and the Jacobite forces.

Cope was an experienced soldier who had fought in the War of the Spanish Succession and served in the 1743 campaign leading to victory at Dettingen. A Lieutenant-General, he was commander of military forces in Scotland, but that meant a small and largely inexperienced army, because most of the army, including the experienced units, was in the Austrian Netherlands (Belgium). By means of a track across the morass, the Jacobites moved, on the night of 20-1 September, onto Cope's left flank, but Cope was able to wheel his army to face east before the Jacobite attacked.

In conventional military terms, Cope, with dragoons and six cannon, had a more balanced force than Charles Edward, who had no cannon and only forty horsemen. However, neither arm was of much value to Cope. The nautical gunners fell and their untrained army replacements did little damage before they were overrun. Most of the dragoons on the flanks refused to charge. Some attempted to do, but were met by Highlanders slashing at their mounts. This ex-

16 J.M. Hill, *Celtic Warfare, 1595-1763* (Edinburgh, 1986).

posed the infantry in the centre. A Highland charge, the formation unbroken by the fire of Cope's infantry, led the infantry to flee in panic a few minutes after the first impact of the charge. The speed of the Jacobite victory, and the possible perspective it shone on contemporary conflict in the Low Countries, were referred to in a Newcastle item in the *Caledonian Mercury* of 16 October 1745:

'Poor Sm—h was apprehended and imprisoned yesterday, for saying over a bottle, that the Dutch auxiliaries here would find an infinite odds between puffing at the *petit Maitres* [French] before Tournai or Fontenoy, and encountering with the desperate Highlander's trusty broadsword and targe, headed by a person who can lie on straw, eat a dry crust, dine in five minutes and gain a battle in four.'

The Jacobite broadswords caused most of the casualties at Prestonpans and inflicted many hideous wounds. The Jacobites lost about 105-120 killed and wounded, their opponents' about 300-500, with about another 500-600 captured. Most of the casualties occurred during the retreat, for infantry formations that lost their order in retreat were particularly vulnerable to pursuing infantry, as at Prestonpans, or cavalry, as at Culloden in 1746 and Waterloo in 1815. At Prestonpans, the royal forces only fired one round of ammunition and their bayonets were not stained with blood.

The Court-Martial appointed in 1746 to inquire into Cope's conduct unanimously backed him on the choice of ground and the disposition of his troops, and decided that he 'did his duty as an officer.' Instead, failure was blamed on 'the shameful behaviour of the private men.' This was an unfair verdict as the infantry had not been trained for such conflict (a point also valid for example for Union defeat at First Bull Run in 1861 or for the British failure at Japanese hands in Malaya in 1941-2), while cavalry and dragoon units were not accustomed to being attacked by infantry. Robert Craigie, the Lord Advocate, had written on 23 September 1745 about:

'The action or rather the rout.... The officers in the general condemn the soldiers and in a particular manner the dragoons who they saw did not strike one blow before they fled and neither they nor the foot could be prevailed upon to rally. We think this accounts for the defeat without any other reason either the attacks being early in the morning or the bravery or number of the Highlanders.

One thing is certain that this defeat will make it a dangerous experiment for His Majesty's troops to engage the rebels a second time without



Fig. 2. Highland Charge during the Battle of Prestonpans (from the *Penicuik Drawings* 1745-1746). Unknown Author. (Wikimedia Commons).

a visible superiority. This has raised their contempt of the regular troops and I own I have a great doubt but that His Majesty's troops will have a diffidence of one another especially of their leaders.'¹⁷

In response, on 26 September, the government ordered William, Duke of Cumberland, the British commander, to dispatch eight more battalions and three squadrons of dragoons from the Low Countries to England immediately.¹⁸ Thus, the battle had a prompt strategic impact; which was more than the case with many battles. Cumberland and Britain's Dutch ally feared that this move, in the aftermath of defeat at Fontenoy, would wreck both the crumbling defence of the region and the anti-French alliance, leading their ally Austria to neglect the conflict with France in favour of its war with Prussia while also encouraging already powerful neutralist tendencies in the United Provinces.¹⁹

Prestonpans meant a transformation in British strategy, one that focused on

17 Ashington, Northumberland County Record Office (hereafter CRO), ZRI 27/4/11; National Archives, State Papers, 54/26 f. 102.

18 Thomas Ramsden, Under Secretary in the Southern Department, to Henry, 3rd Viscount Lonsdale, Lord Lieutenant of Cumberland and Westmorland, 26 Sept. 1745, Durham, Durham CRO, D/Lo/F/745/57.

19 Windsor Castle, Royal Archives, Cumberland Papers (hereafter RA. CP), 7/288, 291, 279, 306.

infantry movements. In place of the question as to whether forces should be brought back to southern England to face a likely French invasion, such as that wrecked by a storm in the English Channel in 1744, or be retained in the Low Countries to prevent the French from overrunning the Austrian Netherlands (modern Belgium), the prime strategic problem was now that of deciding how many troops to retain in southern England and how many to send north against Charles Edward.

The major political question was no longer how the anti-French alliance could be kept together at a time of bad war news (including defeat at Fontenoy), as well as French peace initiatives (in a highly fluid diplomatic environment, some powers, notably Bavaria and Prussia, stopped fighting in 1745), and disputes as to whether Britain would be able to remain a member of the alliance. Instead, after Prestonpans, there was little doubt in London that an invasion of England was imminent. A key element of battle, the psychological one, was at play. Thomas Sherlock, the highly-influential Bishop of Salisbury, wrote on 26 September: 'the credit given to the rebels will, I doubt not, bring many of their secret friends into action, and be attended probably with new commotions in England.'²⁰

Force deployment had been made much more important by Prestonpans as it had revealed that equality of forces would not be sufficient to defeat the Jacobites and that fighting them in the open, as opposed to royal forces benefiting from fortifications, would be hazardous. The speed with which Cope had been routed was especially frightening.

Prestonpans was part of a wider strategic picture. If too many troops were sent north, France might be tempted to invade southern England. It was as if the British government faced the quandary of King Harold in 1066 when challenged by both Norwegians under Harald Hardrada and Normans under William the Conqueror, that of strategic prioritisation and operational choices, and in a context in which the impossibility of knowing which would attack first was compounded by the absence of rapid communications. Prior to Charles Edward's move from Highland to Lowland Scotland, it was possible to argue that Cope and the loyal Scots would be able to defeat Charles Edward, or at least prevent

20 Sherlock to Edward Weston, Under Secretary in the Northern Department, 26 Sept. 1746, Farmington, Connecticut, Lewis Walpole Library, Weston papers, vol. 16.

him from overrunning all Scotland. It was therefore plausible to present the strategic question as southern England or the Low Countries, but, after Prestonpans, this was no longer possible.

In an instructive guide to other battles, whether supposedly decisive or not, Cope had not simply been defeated. His army could not be regrouped. It had been destroyed, its morale shattered, and many of its members had become casualties, prisoners or deserters. A new force would have to be of regulars, and sent from southern England or the Low Countries.

To leave northern England defenceless might be sensible in military terms as it would have kept the army together, strong enough to dissuade the Bourbons from invading and powerful enough to defeat Charles Edward if he advanced to near London. But such a course of action was neither politically nor, thereby, militarily practical. It would create a disabling crisis of confidence while also permitting the Jacobites the opportunity to recruit in northern England. The emphasis in discussing Poland in 1939 and Yugoslavia in 1941 on maintaining reserves, rather than defending the perimeter, needs to address this point.

There was no other battle in Britain until 18 December 1745, when a successful Highland charge at Clifton led to the repulse of troops pressing the Jacobite rearguard, with the firepower of the defending dragoons unable to prevail over the claymores of the attacking Highlanders. The latter had only 150 yards to run, and that covered by a dark and cloudy night, such that the dragoons, unable to face hand-to-hand fighting, retreated after about two minutes. This was a relatively minor clash compared to the battle of Falkirk on 17 January 1746, which was again a Jacobite victory, and this time over a far larger force than at Prestonpans. Jacobite victories remained the dominant psychological feature, in practice until the total Jacobite defeat at Culloden on 16 April 1746.

As such, Prestonpans provided seven months of mood-setting, a key element in both campaigning and the politics of war, and one that dictated the need for the government to have larger forces in order to engage the Jacobites. Indeed, at Culloden, the respective strength was about 6,900-7,200 to 5,000-6,000 Jacobites,²¹ which scarcely captured the idea seen in the nineteenth century of 'primitive', non-Western forces being defeated by far smaller Western ones.

21 C. Duffy, *Fight for a Throne: The Jacobite '45 Reconsidered* (Warwick, 2015).

Blaming the troops for failure was not unique to Prestonpans. Moreover, it was an aspect of the context for discipline that needs to be considered. This is alongside the usual emphasis on the tension between control and motivation within the parameters of professionalism and Enlightenment thought.²² In 1755, when Braddock's army of 1,300 regulars and provincials was defeated near Fort Duquesne by 891 French and Native American allies, with 457 killed in his force and over 450 wounded (compared to 39 and 57), Lieutenant-Colonel Thomas Gage, who took part, referred to 'this shameful affair ... no officers ever behaved better, or men worse.' However, as with the unfamiliar Highland charge at Prestonpans, Braddock's men were unused to being fired on by an enemy they could not see. Horatio Sharpe, the Governor of Maryland, whose military career had included service against the Jacobite in the '45 and who had been Commander-in-Chief of British Forces in North America until succeeded by Braddock, wrote:

'the novelty of such fighting struck our troops with amazement and terror. They found themselves destroyed by an invisible enemy, and were soon thrown into the greatest consternation.'²³

This would probably also have been the situation for Prussian or other forces. The effectiveness of the Jacobites at Prestonpans raises questions about the way in which capability on the eighteenth-century battlefield was, and is, assessed. A bleak view of the Highlanders was offered after Falkirk by Lieutenant-General Lord George Murray, one of the Jacobite commanders. He commented on 'the infinite advantages' the Jacobites:

'had from their position – the nearness of the attack, the descent of a hill, the strong wind and rain which was in their back, and directly in the enemy's face; and that they had some mossy ground upon their right, which prevented the enemy's horse from being able to flank them; and that by reason of the badness of the road, and steepness of the hill, their cannon were of no use to them; in a word, the Highland army had all the advantages that nature or art could give them.'

The Jacobite right was totally successful, but the left failed. Murray was clear about the Highlanders' faults:

22 A. Querengasser, 'The image of the common soldier in the eighteenth century,' *NAM*, 6, 23 (2025), pp. 353-79.

23 T. Keppel, *The Life of Augustus, Viscount Keppel* (2 vols, London, 1842), I, 217, 219.

‘... without a body of regular troops, the Highlanders, by themselves, have many disadvantages, by their not being disciplined, and especially their not rallying quick after an attack.... Had there been any officer on the left, to have ordered two or three battalions from the second line, or reserve, to have faced those of the enemy that outflanked them, they would have had a complete victory.... the best of the Highland officers, whilst they remained at Falkirk after the battle, talking of the affair, were absolutely convinced, that, except they could attack the enemy at very considerable advantage, either by surprise or by some strong situation of ground, or a narrow pass, they could not expect any great success, especially if their numbers were no ways equal, and that a body of regular troops was absolutely necessary to support them, when they should at any time go in, sword in hand; for they are sensible that, without more leisure and time than they could expect to have to discipline their own men, it would not be possible to make them keep their ranks, or rally soon enough upon any sudden emergency, so that any small number of the enemy, either keeping in a body when they were in confusion, or rallying, would deprive them of a victory, even after they had done their best.’²⁴

This was a frustrated Murray feeling robbed by poor command on his left; but, in reality, the force that had broken most was the regular one, one of its commanders, Brigadier-General James Cholmondeley, writing of what he termed a ‘scandalous affair’:

‘our foot gave a front fire, and then faced to the right about, as regularly as if they had the word of command, and could not be rallied, until they got a considerable distance, although I do not think they were pursued by two hundred men.’²⁵

James Stuart Mackenzie, who acted as an *aide de camp* for the British commander, reported that the Highlanders, ‘giving them a sharp fire’, broke the dragoons, which, in turn, broke the infantry, causing a general panic and flight. On the right, however, the infantry held, but, rain wetting the powder:

‘not one in twenty muskets would go off.... does us very little honour..... they made but very little use of their broadswords, which is the weapon they rely most upon.... if the victory was to be given to either side, it certainly was theirs.... our men, who seem to have lost all spirit and sense of honour.’²⁶

24 R. Chambers, *Jacobite Memoirs* (Edinburgh, 1834), pp. 83-94.

25 Chester, Cheshire CRO, DCH/X/9a/48.

26 Aylesbury, Buckinghamshire CRO, Trevor Mss., vol. 54.

Cumberland, who was not present, was blunter: 'For God's sake purge the foot; for they did not use to run away.'²⁷ This was certainly true of the British in the War of the Spanish Succession, including at defeats notably Brihuega and Villaviciosa (1710).

Considering the battles of '45, it is a little unclear why such warfare is treated as in some way anachronistic. To a degree, the situation prefigured the condescension of some European commentators toward the competing armies during the American Civil War (1861-5). Instead, Jacobite warfare, like that in the Civil War, delivered results and in the Jacobite case speedy results and often with relatively little casualties for the attacker. Moreover, there was a linkage between the Jacobite attack method, and the more general combination that was frequently sought in the attack, one of mass, speed and decisiveness, infantry as if cavalry, or, indeed, as the new, replacement 'cavalry', one that was less expensive and more disciplined. That approach might appear very different to the standard portrayal of battle as a more static exchange of fire between lines of stationary musketeers, but the latter was far from the only form of infantry combat.

Speed, manoeuvrability and, therefore, discipline were all required in order to get inside the 'decision-loop' of opponents and, in particular, understand, create and use opportunities. That was the key battlefield command skill, and it was one seen with Marlborough, Saxe, Frederick and others. To a degree, infantry had to be used like cavalry, waiting for a vulnerable flank that could be exploited, a situation repeatedly seen in the American Civil War and significant in the turnaround of the Allied recovery in the Battle of the Marne in 1914. Battle (like campaign) set units in a motion that could have unpredictable consequences, including in terms of vulnerabilities, establishing opportunities. This was more significant than supposedly inherent advantages for particular armies.

In part, this point demonstrated the degree to which infantry was malleable. Indeed, at the basic tactical level, this characteristic owed much to the demise of the pike so that infantry in itself (as opposed to in co-operation with artillery and/or cavalry) no longer involved the many complications of combined arms operations. For the European forces that fought non-Europeans, principally the

27 RA. CP. 9/102, 110, 115, 141.

Russians, British and Austrians, but also the Dutch, French, Portuguese, Spaniards, and Venetians, this malleability increased greatly the value and potential of infantry.

As the British showed with their *sepoys* in India, this characteristic also contributed greatly to that export of European infantry-fighting norms. This diffusion was to be of great significance during the age of European empire and also, helped by American examples, thereafter. Whereas imperial Rome ran a composite military (including infantry, for many auxiliaries did not fight like the legions), imperial Britain followed a different course, that of a uniformity in infantry. In contrast, the British found it best to recruit local cavalry in order to confront the particular challenge posed to infantry by Indian light cavalry.

Tapping into the Indian military labour market gave the British major advantages,²⁸ not least in not requiring the transport of large forces from Britain, with all the risks that brought of delay and of losing manpower to disease. Both of these affected the relatively modest French force sent to India in 1780, and these factors would have greatly affected any attempt by Napoleon to exploit his conquest of Egypt in 1798 by intervening in India as was vainly suggested.

Instead, the British were able to build up in India a large and mostly reliable force with which they overcame European rivals, but, more seriously, Indian opponents, especially the Marathas and Mysore, but also the Gurkhas, Kandy and other powers. Individual successes and failures in battle had different causes, but the overall lesson was of the value of the British system. This system was enforced by often brutal discipline, which was also available in Europe:

‘As the superiority of English sepoys over their enemies, as likewise their own safety, consist entirely in their steadiness and attentiveness to the commands of their officers, it is ordered that no black officer or sepoy pretend to act or quit his post without positive orders to that purpose from an European officer ... should any man fire without orders, he is to be put to death upon the spot ... regularity and obedience to orders are our grand and only superiority.’²⁹

Such disciplined firepower was not generally the case among Britain’s In-

28 R.G.A. Cooper, *The Anglo-Maratha Campaigns and the Contest for India: The Struggle for Control of the South Asian Military Economy* (Cambridge, 2003).

29 Captain Robert Stuart, the commander of a *sepoy* battalion in the army of the East India Company in 1773.

dian opponents, which helped offset the latter's general superiority in cavalry.

Conflict in India was, in many respects, distant from Frederick the Great and the oblique attack, but, yet, underlines the variety that was further seen in European amphibious operations, against both Western and non-Western opponents. This was a variety greatly expanded by revolutions in British North America, Haiti and Latin America. The War of American Independence (1775-83) showed the variety of war fighting, with infantry not having to adapt to the presence of cavalry as it did in Europe. The transportation of horses posed major problems for the British, acquiring enough suitable mounts in America was not easy, and the Patriots (Revolutionaries) found that cavalry units were expensive. Due to the absence or infrequency of cavalry, a more open, less packed, two-deep line of musketeers was adopted. Patriots often used thin skirmish lines, night marches and hit-and-run attacks. This flexibility was not surprising. British regulars were also good at night-fighting. In contradiction to the guerrilla strategy and practices suggested by Charles Lee, George Washington, the commander of the Continental Army, chose to fight essentially in a manner to which the British were accustomed in large part in order to win international recognition and to preserve cities from British attack, although that approach failed with New York in 1776 and Philadelphia in 1777.

The lack of cavalry in that war helped to make exploitation more difficult than in Europe, for example at Blenheim in 1704 and Waterloo in 1815. In America, these losses only occurred when the Patriots held a position whence there was no route for retreat, as at Fort Washington in 1776 and Charleston in 1780. So also for the British at Saratoga in 1777 and Yorktown in 1777, but crucially not after the fighting retreat at Monmouth Courthouse in 1779.

It is ironic that so much attention is devoted to Frederick because the range of opponents he confronted was limited, as was the types of conflict in which he engaged. Moreover, prefiguring Napoleon from 1807 and, even more, 1812, Frederick's ability as a commander to achieve success dramatically declined, not only as seen in his last war, that of the Bavarian Succession (1778-9), but also in the last campaigns of the Seven Years' War, and, indeed, after 1757. Instead, it is the ability of the British, French, Spanish, Portuguese, Dutch, Russian, Austrian, and Chinese armies to offer a wide-spectrum effectiveness that offers lessons, not least in the need to adapt to local circumstances. That could

be very difficult and, anyway, did not necessarily lead to success. Disease, as for the Russians in Persia in the 1720s and early 1730s, the British at Cartagena in 1741, the Chinese in Myanmar in the late 1760s, and the French in Haiti, particularly in 1803, proved especially hazardous. Yet, it was infantry that offered most adaptability, not least because horses were also exposed to disease, and especially so in sub-Saharan Africa.

By the end of the eighteenth century, preponderantly infantry forces had shown dramatic effectiveness, notably with Napoleon in Egypt in 1798. The flintlock musket-bayonet combination wielded by trained forces with able commanders enjoyed a combat advantage that looked toward further infantry developments in the following century. Significant changes began during the French Revolutionary Wars that started in 1792 and came to fruition under Napoleon. The *Corps d'armée* system he perfected applied to all arms, but infantry remained the centrepiece, notably the two to four infantry divisions that comprised each corps.

In the 'unitary armies' of Frederick's era, on the other hand, there was no permanent organisation above the regimental level, while armies sought to approach a battlefield as a block. The latter could only deploy in a limited fashion, whichever formation was adopted, whether lines, 'battles', or whatever other deployment was adopted. Frederick had to engage in almost painful machinations in his instructions to his generals in describing how to get his army deployed on the field in the 'proper' order.

In contrast, Napoleon's armies consisted of multiple, integral, cohesive blocks – corps and divisions that could manoeuvre independently, both during the approach march and on the battlefield. As at Waterloo, the subunits could be shifted around as needed, either in the context of a campaign or on the tactical battlefield, providing articulation, suppleness, flexibility and agility. The terms vary, but the reality can be seen in a comparative ability to move, as in Napoleon's defeat of the Austrians at Wagram in 1809. In a very different scale and context, there were similar developments in Angola, as noted by Thornton in his chapter. By organising his corps in this fashion, Napoleon created tremendous unit cohesion. Few other armies could approach this, although Wellington's divisions did so, contributing to success, as over the French at Salamanca in 1812 and Waterloo in 1815.

These forces could be employed in what have been termed impulse tactics, with articulated blocks of troops able to advance, withdraw, shift to other parts of the field, or be held in reserve in an effective manner, as at Wagram. At the operational level, this contributed to the speed of movement in which Napoleon multiplied the impact of his forces, for example fighting five battles in five days south of Regensburg starting on 19 April 1809. As another instance of flexibility, the French used 'open order' tactics effectively, with entire regiments fighting 'en grande bande' as light infantry.

However much eased by consistent population growth from the mid-eighteenth century (and in the case of France by conquests from 1792), greater numbers posed problems as well as providing opportunities. The need for such numbers certainly meant that a reliance on foreign soldiers or domestic volunteers faced issues of adequate provision. This encouraged an emphasis on conscription systems, whether for regulars or for militia that could free regulars for foreign service. This was a situation earlier seen with France and with Spain under the Bourbons. With both conscripts and volunteers, there was the continuing peacetime need to prepare for an uncertain wartime task, a situation that is also seen today.

Thus, the tactical system adopted by the British in 1792 drew on that of Prussia. The British drew on Colonel David Dundas' *Principles of Military Movements, chiefly applied to infantry. Illustrated by manoeuvres of the Prussian troops, and by an outline of the British campaigns in Germany* (1788), in short on the experience of Continental warfare, more particularly the Prussian manoeuvres that focused the attention of many military visitors and commentators in Frederick's later years.³⁰ Dundas issued a call for order:

'In order to facilitate the movements of great armies, and to enforce their discipline, it is necessary to organise, divide, subdivide them; to establish such general regulations as may prevent the repetition of a tedious but essential detail at times when action and exertion are required ... to ascertain the duties and attentions of individuals in every situation of march; so that the most concise orders may suffice to put the army in motion; and to place it at all times ready to execute with exactness and

30 Colonel Richard Grenville to George III, 13 Sept. 1782, Captain John Barker to Sir Robert Murray Keith, envoy in Vienna, 9 June, Colonel Gordon to Keith, 8 Sept. 1787, British Library, Additional Manuscripts (hereafter BL. Add.), 70956, 35539.

alacrity such intentions of its commander as may arise from the circumstances of the moment.'

Dundas praised the instructions of 1760, both of Victor, 2nd Duke of Broglie of the French army and his opponent, Duke Ferdinand of Brunswick, under whom he claimed, troops had moved 'as parts of one and the same great machine'. Dundas also criticised any stress on the adoption of a looser, more open tactical system for light infantry³¹ and his position needs to be set alongside a developing interest in light infantry. As an instance of continuity, Broglie (1718-1804), served in the French army in Italy in 1734 in the War of the Polish Succession, fought in the War of the Austrian Succession and the Seven Years' War, in 1779 was intended for a command role in the planned but abortive Franco-Spanish invasion of Britain, and in 1792 held a Royalist Command against the French Revolutionaries.

Dundas' tactical system represented a deliberate rejection of the more flexible tactics of the American War of Independence. Indeed, belonging to what was termed the 'German', rather than the 'American', school of officership, Dundas placed the organised firepower of the close-order line, the epitome of heavy infantry at this point, at the centre of military practice, claiming that such a line could resist cavalry in open country. He was much less concerned with light infantry, and the development of that involved (both positively and negatively) issues of military politics, the interpretation of British experience, foreign practice and need, and the complexities of doctrine, training and organisation. Responding to the French use of skirmishers played a major role,³² although there is a parallel with the use of 'stormtroopers' in the latter stages of World War One, as neither light infantry nor they defined the infantry of the period.

Similarly, the Italian armies followed more the Prussian model rather than the French. In Italy, it was only with the French satellite armies that significant change occurred in the late 1790s: in 1797 the army of the Cisalpine Republic adopted the French *reglément* of 1791.

Yet, the French did not define or come to define capability or improvement,

31 Dundas, *Principles*, BL. Add. 27600 f. 44.

32 J.F.C. Fuller, *British Light Infantry in the Eighteenth Century: An Introduction to Sir John Moore's System of Training* (London, 1925).

and, arguably, too much attention has been devoted to such French commentators as Jacques-Antoine-Hippolyte, Count of Guibert, author of the *Essai general de tactique* (1770).³³ In particular, the Russian forces deployed against the French during the French Revolutionary and Napoleonic Wars employed methods that were similar to those of the French army of this period, notably a focus on inflicting casualties and destroying opposing formations: the Russian army under Alexander Suvorov that advanced into northern Italy in 1799 used repeated attacks in battles, notably Cassano d'Adda, Trebbia and Novi, to find weaknesses in the French position. Employing methods developed successfully against the Ottomans in the wars of 1768-74 and 1787-92, Suvorov was willing to accept a high rate of casualties and to mount costly frontal attacks with a reliance on bayonet attacks rather than defensive firepower.

This Russian trajectory of attack, which went back to way before the French tactical innovations of the late eighteenth century, is a reminder of the need not to treat Eastern European armies as catcher-uppers. Linked to this, the discussion of Russia serves to underline that Frederick the Great (who was continually very concerned about Russian strength, plans and preparations) scarcely represented the acme of *ancien régime* warfare. This is a point that was readily apparent in the 1740s with Saxe's successes and the alternative model of Jacobite attack-victories, and, subsequently, with the growing utilisation of light infantry, as in Britain by the end of the century, and with doctrinal and organisational changes accordingly. Similar reassessments can be offered for other periods.

33 But see, very impressively, J. Abel, *Jacques-Antoine-Hippolyte, comte de Guibert: Father of Napoleon's Grand Armée* (Norman, Ok., 2016) and Guibert's 'Defense of the System of Modern War' (Leiden, 2025).

French Infantry:

From Professional Soldier to Imperial Conqueror

1763-1815

by MICHAEL V. LEGGIERE

O ften a static mass in eighteenth-century warfare, the infantry became the dynamic and indispensable bedrock of Napoleonic warfare. The French army that Napoleon inherited was a direct product of the tumultuous decade of the French Revolution. It was no longer the meticulously organized, highly professional force of the *ancien régime*, but rather a mass army forged in the crucible of a nation-in-arms. The revolutionary decree of the *levée en masse* and the subsequent implementation of national conscription (most notably the *loi Jourdan* of 1798) provided a seemingly inexhaustible pool of soldiers for the French Republic. This demographic advantage, which supplied tens of thousands of “cheap” soldiers, was a fundamental prerequisite for the ambitious strategies of mass and maneuver that Napoleon would later employ. The backbone of this new military was the infantry, which, by tradition and effectiveness, was known as the “queen of battles.”¹

A student of the enlightened military reform movement prior to the Revolution, Napoleon consolidated the revolutionary and evolutionary military innovations facilitated by that epic event to create a formidable and highly efficient instrument of imperial conquest.² His genius was not in inventing a new form of warfare but in his mastery of strategic mobility and organizational design. He based his operational doctrine on the *corps d’armée* system, an innovation

1 “Les innovations tactiques de l’infanterie légère,” accessed September 12, 2025, http://18eme-de-ligne.fr/empire/resources/img/docs/memoire_inf_legere.pdf.

2 Jonathan Abel, “Jacques-Antoine-Hippolyte, Comte De Guibert: Father of the Grande Armée” dissertation, August 2014; Denton, University of North Texas Libraries, UNT Digital Library, <https://digital.library.unt.edu>.

that organized the army into self-sufficient, all-arms “mini armies” of 20,000 to 30,000 men. This structure allowed for dispersed marches across a wide front, enabling the army to move faster, collect intelligence more efficiently, and concentrate within forty-eight hours for battle. Such organizational flexibility provided Napoleon with a distinct advantage over his opponents.³

The innovations implemented by Napoleon marked the culmination of mainly late eighteenth-century ideas that he perfected and scaled. He oversaw a profound evolution from a politically infused revolutionary force to a highly trained professional army that fundamentally transformed the conception and execution of war at every level. A new military instrument emerged that wielded unprecedented flexibility, mobility, and psychological resilience. Starting with Napoleon’s First Italian Campaign (1796/97), French infantry facilitated his approach to strategy and tactics, and spawned the operational art of war. The entire organization of the army, from the battalion to the corps, served to enhance the infantry’s effectiveness and facilitate its role as the core of combined arms warfare.⁴ Napoleon’s foot soldiers traversed Europe from Lisbon to Moscow, taking and holding ground, seizing objectives, and securing French conquests.

From the Ancien Régime to the Revolution

Steven T. Ross described the Seven Years War as “an unmitigated disaster” for France, a conflict fought without distinction and concluded without victory. French defeat at the Battle of Rossbach in 1757 proved particularly galling, a signature military collapse that Napoleon himself later cited as the true genesis of the revolution that erupted in France in 1789. Catastrophic failure in the Seven Years War catalyzed a long and sustained period of reform aimed at revitalizing the armed forces.⁵ Consequently, the French army’s infantry branch

3 Napoleon’s Grande Armée (Chapter 5) - The Cambridge History of the Napoleonic Wars, accessed September 10, 2025, <https://www.cambridge.org/core/books/cambridge-history-of-the-napoleonic-wars/napoleons-grande-armee/BA2410C86533CB-4F13B8DD98FAC4E903>

4 Emmanuel Desanois, “L’organisation des armées du Premier Empire,” *The Napoleon Series*, accessed September 2, 2025, www.napoleon-series.org/military-info/organization/c_empireorg.html. [/www.napoleon-series.org/military-info/organization/c_empireorg.html](http://www.napoleon-series.org/military-info/organization/c_empireorg.html).

5 Steven T. Ross, “Napoleon and Maneuver Warfare,” USAFA Harmon Memorial Lecture #28, 1985, accessed 10 September 2025, [//www.usafa.edu/app/uploads/Harmon28.pdf](http://www.usafa.edu/app/uploads/Harmon28.pdf).

experienced a fundamental transformation from 1763 to 1814. The dynamic interplay of pre-revolutionary military theory, the Revolution's radical political and social convulsions, and the pragmatic demands of imperial conquest reshaped its identity, tactical function, and social composition. This evolution did not represent a simple linear progression but instead marked a complex synthesis of old ideas and new realities that forged a new paradigm of warfare. The journey of the French foot soldier reflects this profound shift, moving from a rigid professional servant of the king to an ideologically driven citizen-soldier defending a republic, and finally to a hardened instrument of imperial conquest. The following table provides a basic overview of these transformations:

Status	Recruitment Method	Social Origin	Motivation
The King's Professional	Volunteer enlistment; supplemented by coercive methods and the <i>milice</i> (militia)	Primarily lower classes (peasantry, working class) and foreign volunteers	Escaping poverty, unemployment, or legal trouble; needing pay and subsistence
The Citizen-Soldier	Mass conscription (<i>levée en masse</i>) of all able-bodied, unmarried men	All social classes, regardless of wealth or status	Patriotism, revolutionary fervor, defense of the Republic and its ideals, also coercion
Imperial Tool	Mass conscription in France augmented by conscripts from allied/conquered territories	Primarily conscripts from the poorer classes; growing multinational composition	Loyalty to the Emperor, pursuit of personal glory and honor, fear of retribution

The King's Army (1763-1789)

On the eve of the French Revolution, the army of Louis XVI consisted of a professional force with a clearly defined structure. The *État militaire de France* for the year 1789 reveals an organization of seventy-nine French and twenty-three foreign infantry regiments, the latter being mainly Swiss, German, and

Irish. The peace-time army stood at 172,974 men that could expand to a war footing of 210,948 soldiers supported by a militia that provided 55,240 men and 76,000 respectively. Standardized regimental configuration ostensibly composed each French regiment of two battalions.⁶ Each first battalion included one company of grenadiers and four companies of fusiliers, while the second battalion had a company of *chasseurs-à-pied* and four companies of fusiliers. A grenadier company typically mustered 104 men, including officers, non-commissioned officers, and seventy-four grenadiers. A chasseur company ranged slightly larger, with 110 men, while a fusilier company numbered 100 soldiers.⁷

Characterized by a rigid, class-based structure that prized social standing over professional competence, the Royal Army of the late eighteenth century mirrored France's *ancien régime*. Officer candidates had to be of noble birth and received training at military schools reserved for the aristocracy. A minority, the "*officiers de fortune*" (12% in 1789), received promotion from the ranks of the "junior" officers but this did not represent the norm.⁸ In 1781, the Ségur *règlement* required aspiring officers to prove four generations of unbroken paternal noble descent. This measure sought to entrench the officer corps as a preserve for the established nobility by preventing aspiring bourgeois or recently ennobled families from purchasing commissions from a government apparatus that depended on venality to supplement its coffers. Therefore, the Ségur *règlement* served as an internal control mechanism to block the social mobility that threatened the nobility's prevailing status.⁹ In 1789, nobles represented some 70% (6,633 of 9,578) of the officer corps despite comprising only 1.5% of France's population of 28 million. Monopolized by the nobility, the officer corps mirrored the stark separation of France's elite from society at large.

Numbering some 155,000 soldiers on the eve of the Revolution, the enlisted ranks provided a flagrant contrast to this aristocratic leadership.¹⁰ The rank

6 Camille-Félix-Michel Rousset, *Les volontaires: 1791-1794* (Paris, 1870:), 1-2.

7 *État Militaire de France pour l'année 1789*. napoleon-series.org.

8 Mathieu Marly, "Chapitre III. Devenir officier," in *Distinguer et soumettre* (Rennes: Presses universitaires de Rennes, 2019). <https://doi.org/10.4000/14aw0>.

9 Rafe Blaufarb, "Preface," in David Bien, *Caste, Class and Profession in Old Regime France: The French Army and the Ségur Reform of 1781* (University of St Andrews, 2010), 3.

10 Annie Crépin, *Défendre la France* (Rennes, 2005). doi.org/10.4000/books.pur.17201; S. Scott, *The response of the royal army to the French Revolution: The role and development*

and file consisted of professional soldiers, primarily volunteers from the lower classes who signed eight-year enlistment contracts to escape destitution, unemployment, or the law. Recruitment was often a coercive process, with recruiters using liquor to ply the naive into service or even enlisting men directly from prison. Thus, the public did not perceive the status of soldier, unlike that of officer, as a respected profession but as a condition of a certain discredit.¹¹ In part for these reasons, the Royal Army remained chronically short of manpower and relied on German, Swiss, and Italian regiments to augment its numbers.¹² Whether at war or during times of peace, the army employed harsh discipline and severe punishment to maintain order.¹³ Therefore it is not surprising that desertion rates remained high, with some 70,000 men fleeing the colors during the Seven Years War.

The Royal Army's linear tactical doctrine reflected the ascendancy of gunpowder over the shock of steel that occurred the previous century. While the intellectual discussions and theoretical debates on tactics that started around the turn of the century accords French doctrine the air of an evolutionary process, linear battle order underwent little change during the 1700s. Accordingly, *l'ordre mince*, a formation of three close-order ranks in three files, sought to maximize the volume of fire from smoothbore, flintlock muskets. This rigid, linear system prioritized disciplined and synchronized volley fire. While effective in theory, its slow and rigid nature made it ill-suited for the broken terrain of many battlefields and left the infantry highly vulnerable to flanking maneuvers and cavalry attacks. Training consisted of monotonous exercises that emphasized rapid deployment from march column to line, the sequence of loading weapons, and coordinated volley fire. In battle, non-commissioned officers functioned more as managers who sought to maintain proper alignment rather than leaders to be emulated through individual initiative, which close-order tactics rarely required.¹⁴

of the line army, 1787-1793 (Oxford, Clarendon press, 1978).

11 Annie Crépin, *Défendre la France* (Rennes, 2005). [/doi.org/10.4000/books.pur.17201](https://doi.org/10.4000/books.pur.17201)

12 Jonathan Abel, ed. and trans., "Appendix A: The French Army in the Eighteenth Century," in *Guibert's General Essay on Tactics* (Brill, 2021).

13 Steven T. Ross, "Napoleon and Maneuver Warfare," USAFA Harmon Memorial Lecture #28, 1985, accessed 10 September 2025, www.usafa.edu/app/uploads/Harmon28.pdf.

14 Steven T. Ross, "Napoleon and Maneuver Warfare," USAFA Harmon Memorial Lecture #28,

Reform

Following the humiliating defeats suffered on three continents during the Seven Years War, French military theorists conducted a thorough postmortem of the army. Although the old nobility closed the ranks of the officer corps, it could not prevent Enlightenment principles from entering discussions of military reform. Progressive officers like Jacques-Antoine-Hippolyte de Guibert and Pierre de Bourcet questioned the attritional strategy and linear tactics of the time. In his *Essai général de tactique* (1772), Guibert argued for a more mobile and maneuverable army, capable of decisive actions aimed at annihilating the enemy's military capabilities rather than exhausting them. He advocated for a flexible tactical doctrine that among other changes resurrected the use of columnar formations to replace the rigid line.¹⁵ Guibert also recognized that military reform had to be accompanied by a new social contract, a testament to the profound link he saw between an army and its society. Tacticians like François-Jean de Mesnil-Durand favored *l'ordre profond* (deep order or column formation) for rapid maneuver and the shock of steel via a bayonet charge, even if it sacrificed firepower. For his part, Bourcet developed a divisional model that allowed an army to be divided into several distinct marching columns. This approach was designed to exploit mobility and facilitate subsistence on campaign while retaining the ability to concentrate quickly for combat. Concurrently, Jean-Baptiste de Gribeauval revolutionized artillery, introducing a new system of lighter, standardized cannons with interchangeable parts, an innovation that dramatically increased their mobility and logistical efficiency. These theorists laid the intellectual groundwork for the tactical revolution that was to come.

Despite the intellectual introspection, the traditional linear warfare of *l'ordre mince*, as codified by the 1776 military ordinance and highly reliant on the rigorous training and discipline of a professional soldiery, remained official doctrine. Although modifications in tactics, organization, and discipline prior to 1789 reflect evolutionary reform, deep societal ailments hindered the full implementation of far-reaching or "revolutionary" reform. France's military estab-

1985, accessed 10 September 2025, www.usafa.edu/app/uploads/Harmon28.pdf.

15 *Essai général de tactique* - Jacques-Antoine-Hippolyte, Count of Guibert-Compte rendu. <https://www.google.com/search?q=proecapantheonsorbonne.wordpress.com>. Accessed 9/15/2025

lishment stood as a microcosm of a society on the verge of collapse due to elitist narcissism. Theoretical advances and technical innovations met consistent and persistent opposition. The prevailing culture of noble privilege and internal conflicts among the aristocracy took precedence over military professionalization and reform. This fixation on social standing prevented the Royal Army from fully embracing a new system of warfare, a condition described as “doctrinaire ossification.” Thus, the tactical inflexibility of the *ancien régime*’s army persisted as an unavoidable consequence of its rigid social and political structure, a profound causal relationship that only a revolutionary upheaval could disrupt. To military theorists, neither institutional reform nor the introduction of Prussian-style tactics and discipline appeared sufficient “to break the stagnation” caused by “venality, poor leadership and ill-trained troops.”¹⁶ France needed a new military culture.

The Citizen-Soldier

The eruption of the French Revolution in 1789 produced the radical and rapid transformation that produced this new military culture, beginning with a complete overhaul of France’s social foundation. In August 1789, the Declaration of the Rights of Man and the Citizen (DRMC) abolished the *ancien régime*’s birth-right society. Two years later, it meshed with the Constitution of 1791 to balance the rights of freedom and equality with corresponding civic obligations and duties, including military service. As with the American Declaration of Independence, the French constitution’s explicit expression of rights and duties established the “democratization of war,” the vital prerequisite for a “nation in arms.” Rights included equality before the law and other civil liberties such as participation in a constitutional political process of representative government. Duties included paying fairly assessed taxes and abiding by the constitution as opposed to custom, tradition, and privilege. Defending the state and serving in the military was seen as both a right and a duty. Although the French constitution established a tax-based voting system that barred most enlisted men from

16 Ambrogio A Caiani, “Levée en Masse,” in *European History Online* (EGO), published by the Institute of European History (IEG), Mainz 2010-12-03. URL: www.ieg-ego.eu/caiania-2010-en URN: urn:nbn:de:0159-20100921155 (accessed September 15, 2025).

participating in the democratic process, a February 1791 decree granted “all soldiers with sixteen or more years of honorable and uninterrupted service” full voting rights, therefore full citizenship. According to Samuel Scott, “This was the beginning of a policy followed throughout the Revolution which raised the status of a common soldier from that of a hired mercenary to that of an honorable profession worthy of the aspirations and respect of all good citizens.”¹⁷

In theory, an army of citizen-soldiers defending their constitutional rights would be more motivated than the professionals who filled the ranks of France’s enemies. More could be asked of such an army, and more could be expected of it. Although never eliminated, desertion would be minimal. Unlike the “slaves” that populated the ranks of the *ancien régime* armies, French soldiers would be imbued with unique qualities that fostered initiative and maintained morale. The spirit of attack and the cult of the bayonet would be organic to the *élan* of the Republican soldier. In 1791, these theoretical concepts along with a large, unprecedented signing bonus (80 *livres* for infantry), attracted 50,000 recruits to the army, which had shrunk to 120,000 men in 1790.¹⁸ This level of enlistment is all the more impressive considering that in June 1791 the government, the National Assembly (NA), adopted the principle of raising “national volunteers” from among willing National Guardsmen. Influenced by the supposed kidnapping of the king, the NA decreed on 21 June the organization and activation of the National Guard of the kingdom. From 26,000 national volunteers initially called by the NA, the contingent expanded to 101,000 men.¹⁹ Despite the existence of this parallel army that paid better and elected its officers, 70,000 volunteers enlisted in the line army in 1792. Motivation came from a 25 January law that lowered the terms of enlistment from eight to three years as well as France’s 20 April declaration of war on Austria and the government’s ensuing 22 July declaration of *la patrie en danger* following a Prussian invasion. By early 1793, the army, which contained ninety line regiments and fourteen light, numbered over 175,000 volunteers.²⁰

17 Samuel F. Scott, “The Regeneration of the Line Army during the French Revolution,” *The Journal of Modern History* 42, no. 3 (1970): 322.

18 Rousset, *Les volontaires*, 41.

19 Rousset, *Les volontaires*, 9-10.

20 Scott, “The Regeneration of the Line Army,” 325.

The social revolution extended to the noble-dominated officer corps. Mass emigration and purges of the aristocracy created a vast vacuum of leadership. To offset the losses, the government introduced the principle of merit-based promotions for NCOs and members of the National Guard. By the end of 1791, ex-rankers constituted 16% of the officer corps. Some 2,200 were commissioned in 1792. By 1793, former rankers promoted since the start of the Revolution comprised more than 50% of the officer corps. In 1794, over 90% had been born commoners.²¹ This collapse of the old hierarchy paved the way for a new officer class based on talent, a living embodiment of the republican ideal of meritocracy.

Valmy

The 20 April 1792 declaration of war on Austria issued by the second government of Revolutionary France, the Legislative Assembly, commenced the War of the First Coalition (1792-1797). A French invasion of the Austrian Netherlands ended shortly after the van panicked and broke during its first encounter with the enemy. Shouting "*Sauve qui peut, nous sommes trahis*," the men shot their commander, General Théobald Dillon, and fled toward Lille. Outside of the city, the fugitives found him in a cart still alive; to finish the job, they shot and bayoneted him before dragging his body through the streets. The men also lynched Dillon's second in command, Colonel Pierre-François Berthois, and then fired his corpse from a cannon.

Meanwhile, an Austro-Prussian commitment to end the Revolution brought Berlin into the war on the side of Austria. A Prussian army commanded by Duke Charles William Ferdinand of Brunswick crossed the Rhine en route to Paris. As noted, the French government responded by declaring *la patrie en danger* on 22 July 1792. Less than one month later, a combination of war hysteria and class politics fueled the overthrow of the constitutional monarchy, the arrest of the royal family, and the creation of a republic. After taking Verdun on 2 September, Brunswick navigated his army through the Argonne. Two French armies that managed to unite immediately behind him forced Brunswick to turn around and face them at Valmy, some 100 miles east of Paris. Bolstered by strong artillery

21 Scott, "The Regeneration of the Line Army," 320, 326.

positions that commanded Brunswick's approach march, the French, a combination of Royal Army veterans and recently enlisted volunteers, shocked the world by stopping the vaunted Prussian army.

In truth, Brunswick had little desire to fight. With most of his infantry suffering from dysentery and the weather having turned cold and rainy, he continued the march east, giving wide berth to the French armies at Valmy. Intending to winter west of the Rhine, concerns over supply prompted Brunswick to execute a full retreat across the river. By 23 October 1792, not a single enemy soldier remained on the soil of the new republic. Taking advantage of the reprieve, three French armies launched counteroffensives all along the front, conquering the Austrian Netherlands and Savoy; in the Rhineland, General Adam Philippe Custine took Speyer, Worms, and Mainz before reaching Frankfurt. Yet success proved fleeting. During the first half of 1793, French belligerence brought Great Britain, the Netherlands, Spain, Portugal, the Holy Roman Empire, Sardinia, and Naples into the war. Coalition forces launched multiple offenses across France's frontiers. Facing such numbers, the third government of the Revolution, the National Convention (NC), embraced desperate measures.

Amalgamation and Conscription

On 21 February 1793, the NC officially amalgamated the volunteer "blues" and the veteran "whites" of the line army. In effect, France had three categories of soldiers all with different uniforms, equipment, training, and pay. These included the remnants of the Royal Army's regiments: seasoned, professional infantry; the National Guard: citizen militia units, often poorly trained and equipped; and Volunteer battalions: undisciplined and poorly trained yet highly enthusiastic. To forcefully break the army's ties with its *ancien régime* past and create a new national military, the 21 February decree replaced the unit designation of "*régiment*" with "*demi-brigade*" to designate new units consisting of one white and two blue battalions (either Volunteer or National Guard). Aside from its ideological aspects, the decree sought to create a more effective fighting force by standardizing equipment, organization, pay, and uniforms:

Article 1. From the date of publication of this decree, there will no longer be any distinction or difference between the infantry units called line regiments and the national volunteers. Article. 2. The infantry that the

Republic maintains in its pay will be formed into demi-brigades, each composed of one battalion of the former line regiments and two battalions of volunteers. The uniform will be the same for all the infantry.... Article 4. The soldiers currently composing the line regiments are required to fulfill their commitments until peace. Volunteers may never be obligated for anything more than one campaign.... Article 7. The pay will be the same for all individuals composing the French infantry, each according to his rank, and the highest pay of each rank will be taken as a basis....²²

Despite the ideologues, calmer heads prevailed. The decree's eighth article postponed the "union of the volunteer battalions with those of the line until ordered otherwise; provisionally, the units will remain organized as they are" until the end of the 1793 Campaign. This marked the war committee's acknowledgement of concerns expressed over reorganizing the army while at war.²³

Three days after the amalgamation decree, the NC issued the *levée de 300,000* that sparked civil war in western France, most notably the Vendée region.²⁴ Regardless, France placed some 645,000 men under arms by summer but needed more. To provide numbers, the National Convention (1792-95), decreed the *levée en masse* on 23 August 1793. This famous policy of national conscription along with the infamous Reign of Terror represented two sides of the same coin. A truly revolutionary act that democratized war by declaring the defense of the nation a political and moral duty for all citizens, the *levée* requisitioned all able-bodied, unmarried men aged 18 to 25 for military service. It mobilized the entire population and all of France's resources for war. The army swelled to an unprecedented size; an estimated 804,000 soldiers were serving in fifteen armies by December 1793.²⁵ With these forces, the NC planned to eradicate counter-revolution within France and spread revolution abroad. Seismic politi-

²² Quoted in Rousset, *Les volontaires*, 166-167

²³ Rousset, *Les volontaires*, 168.

²⁴ "All French citizens, from the age of eighteen to forty, unmarried or widowed without children, are in a state of permanent requisition, until the time of the completion of the effective recruitment of 300,000 men...." Quoted in Rousset, *Les volontaires*, 166.

²⁵ Although written in 1870, Rousset's admonition remains valid: "In general, it can be said that, until 1795, the situations, effectives, and numerical statements of all kinds concerning the military forces of the Republic should be consulted and evaluated with extreme distrust; everything is excessive, far above reality. It is with this express reservation that we will mention a statement given as approximate by Bouchotte's own offices, and which evaluates, on the date of 15 October 1793, the strength of the armies, including garrisons, at 603,545 men. Rousset, *Les volontaires*, 256.

cal and social shifts caused by the Revolution combined with fear of the “other” to act as the crucible for this policy of sheer terror. Mass conscription completely transformed France’s professional army into legions of citizen-soldiers driven by indoctrinated ideological fervor.

Legions indeed, but poorly trained. Rushed to the frontlines, the conscripts had little time to learn the complex linear tactics of the 1791 *Réglement*, which continued the use of *l’ordre mince* despite the debates and calls for change over the past thirty years. Regardless of the official regulations, the battlefield rendered the French tactical system impractical. Hundreds of thousands of raw, untrained troops led by inexperienced NCOs and officers could not execute the intricate tactical maneuvers under enemy fire. Cohesion broke, command and control collapsed, and defeat ensued. The inability to replicate a highly trained, professional military establishment along with the army’s new social composition and organization both necessitated and allowed a complete change in tactical doctrine.

L’Ordre Mixte

Per the 21 February 1793 decree that both authorized and postponed the amalgamation, a 10 January 1794 decree started the official process of amalgamating 198 line battalions with 396 volunteer battalions and forming 15 light infantry demi-brigades. Although actual musters fluctuated, each demi-brigade should have contained 2,437 men, including officers, comprised of one company of gunners and nine infantry companies. Overall numbers increased to 209 infantry demi-brigades and 40 light infantry demi-brigades but still fell short of the goal of 254 and 42 respectively. Theoretically, the amalgamation was based on the idea that veteran battalions possessed the training and cohesion needed to deploy in line formation while the inexperienced volunteer battalions formed columns on either flank. Influenced by the ideas circulated during the theoretical debates on reform, French commanders started experimenting with tactics and formations that could be executed by untrained troops. These included combining the use of unprecedented numbers of skirmishers (*tirailleurs*) with deep battalion columns (*l’ordre profond*). Moving independently, fighting in open order, and utilizing terrain for concealment, skirmishers harassed the enemy as

he transitioned from march column to line. Incessant sniping of the enemy's main formations and its negative impact on his morale and unit cohesion became a force-multiplier. The skirmish screen acted as a buffer, an intelligence gatherer, and a tool for psychological warfare, wearing down the enemy's resolve and softening his ranks before the main assault. Specialized light infantry units, *chasseurs-à-pied*, enabled the number of skirmishers utilized in battle to increase from the 5% of the *ancien régime* to 23% of the total infantry during the Napoleonic era.

Where skirmishing required a certain level of skill and dexterity, the column formation met the needs of untrained yet highly motivated conscripts. Easier and faster to learn, the column provided a potent battering ram of infantry advancing in deep formation. Its narrow frontage allowed for faster movement across the battlefield while its depth was designed to break through enemy lines by the sheer weight and momentum of massed infantry. Loosely based on the Spanish *tercio* of the seventeenth century, the infantry column smashed into the enemy's thin lines, relying on shock and numerical superiority rather than disciplined volley fire. Columns were ideal for quickly advancing on an enemy position or making short work of infantry already weakened by skirmisher fire or artillery. Although the column offered advantages in mobility, attacking across difficult terrain, and assailing strong points, it presented a large, concentrated target for enemy artillery. After-action reports from the period are rife with accounts of the heads of columns being "smashed in" by enemy artillery. Unsupported columns also provided easy prey for flanking attacks by faster moving cavalry. For this reason, skirmishers deployed in a wide arc or "screen" formation preceded the advancing columns to pepper the enemy's gunners with more concentrated firepower. This flexible and intelligent use of skirmishers to soften the enemy before the decisive assault allowed French columns to advance more securely and effectively. In theory, it recognized and capitalized on a soldier's *élan*, making enthusiasm a core element of the tactical plan.

Starting in 1794, the success of the French infantry stemmed from the convergence of institutional and tactical innovation, where the former compensated for the inherent limitations of the latter. Although the Revolution created a massive yet undertrained force, French commanders continued to develop tactics that leveraged enthusiasm while mitigating the lack of formal training. The

result, *l'ordre mixte*, a flexible system that combined the firepower of the line formation with the shock and rapid maneuverability of the column, enabled the French to adapt their formation to the terrain and the enemy's disposition. Unlike their more rigid European counterparts who usually favored *l'ordre mince* for maximum firepower, the French gained a decisive advantage from this flexibility. The column formation, being simpler to train and maneuver than the linear formation, served the needs of the untrained while the veteran battalions provided the firepower of the line.

In January 1796, the last government of the Revolution, the Directory, implemented a second reorganization or amalgamation of the infantry. The result formed the 238 existing demi-brigades into 110 infantry demi-brigades and 30 light infantry demi-brigades. Both the amalgamation and the mixed order marked a fundamental shift in tactical doctrine. Born of necessity, they represented expedients taken by commanders who faced both defeat on the battlefield and the guillotine in Paris. Like combined-arms warfare, French tactical formations complemented each other and compensated for weaknesses: the brute strength of the column worked in harmony with the choreographed finesse of the line, and both relied on "clouds" of skirmishers to demoralize the enemy before delivering the decisive blow. In this way, the army's mix of trained, disciplined professionals and semi-to-untrained volunteers became the source of its tactical strength, forging a new method of warfare suited for either patriotic motivation or fear of the guillotine. Regardless of the impetus, the new French tactical system represented a practical adaptation to the realities of a conscript army. Combining line and column allowed for a powerful frontal assault that could shatter the morale of an enemy line just by advancing across the battlefield. Widespread use of hordes of conscripts greatly enhanced the efficacy of these new tactics.

The First Italian Campaign (1796-1797)

Napoleon's first stint as a commander-in-chief, the Italian Campaign of 1796-1797, serves as a masterclass in studying the application of new tactical principles at the operational and strategic levels. This campaign marked the first occasion that Bonaparte, an artillery officer, handled infantry in the field and fought a pitched battle. During the campaign, Napoleon established the princi-

ples of war that are still studied by today's professional military establishments: objective, offensive, mass, economy of force, maneuver, unity of command, security, surprise, and simplicity. He also implemented the strategy of the single point, the *manoeuvre sur la position centrale*, the *manoeuvre sur les derrieres*, and the concept of victory through a decisive battle of annihilation and the destruction of the enemy army. Napoleon's tactical victories, his operational success, and ultimately his strategic triumph over Sardinia and Austria can be attributed to his aggressive implementation of the changes in the character of war produced by the French Revolution: living off the land of conquered territories instead of relying on lengthy supply chains; task-organizing commands based on his understanding of the enemy's options; speed on the march; opportunistic exploitation of the enemy's mistakes; and capitalizing on the new formations of mixed order attacks made possible by mass conscript armies. Aside from his own attributes, Napoleon relied on building and maintaining a high level of morale in his army.

In April 1796, Bonaparte's rag-tag army of half-starved men faced a Sardinian army to the northwest and an Austrian army to the northeast; should they unite, their total combined forces would outnumber him. On 11 April, he learned that the Austrians had attacked the forward posts of his center and right. Recognizing that the advance against his center would facilitate the union of the two enemy armies, he devised a plan centered on utilizing interior lines to concentrate overwhelming force against the Austrians and firmly secure central position. Bonaparte estimated that he would be able to concentrate some 25,000 men against the Austrians and near the junction of two allied armies. Tactically, this would be "a combined attack in full force on the right wing of the Austrian column advancing via Montenotte, and strategically, a piercing of the enemy's center."²⁶ As it turned out, his infantry conducted a miserable night march through heavy rain and mountainous terrain. Early on the extremely foggy morning of 12 April, his guns opened fire on the unsuspecting Austrians. The ensuing Battle of Montenotte saw 16,500 French troops engage 4,000 Austrians. It ended with the Austrians losing 1,800 men and 12 guns to some 880 French

26 Hans Ludwig David Maximilian Yorck von Wartenburg, *Napoleon as a General* (London, 1897-1898), 1:30.

casualties.²⁷ Napoleon now held central position between the two enemy armies, forming a wedge between them that would prevent their junction.

Allowing his troops no rest, Bonaparte sought to exploit the victory by continuing operations that same day – despite the forced night march through a spring thunderstorm that his troops had endured. He deployed brigades and divisions of infantry as “flying columns” to execute unprecedented rapidity of movement as well as surprise to keep his opponents off balance. Such a strategy and the ensuing operations required an army that could move quickly and independently. Led by intrepid generals and even Bonaparte himself, French infantry made war with their legs sometimes marching over thirty miles in one day or marching for seventy-two hours with sporadic halts for thirty minutes. During operations in September, the Army of Italy marched 112 miles in just six days. The incredible speed of his army and his command of the principle of offensive overwhelmed the Austrians in Italy. His first Italian Campaign demonstrated not only the tactical courage of the French foot soldier, but also the psychological power of the army’s high morale. Its ability to persevere and fight in conditions that would have broken other armies was a direct result of its psychological cohesion that had been forged by basic needs: victory meant women, wine, and pay while defeat meant starvation, rags, and misery.

Napoleon’s First Italian Campaign of 1796–1797 was one of the most fast paced strategic and operational masterpieces in military history, all made possible by his infantry. Bonaparte’s application of mass, speed, deception, security, simplicity, and economy of force proved devastating to his Sardinian and Austrian foes, who applied the tenets of limited war based on lines of communication established along a series of magazines and fortresses. Bearing in mind that the French army’s revolutionary meritocrats leading an infantry reborn of evolutionary change made Bonaparte’s way of war possible, we turn to Jomini:

To detect, at a glance, the relative advantages presented by the different zones of operations, to concentrate the mass of forces against that one zone that offered the best promise of success, to be indefatigable in ascertaining the approximate position of the enemy, to fall with the rapidity of lightning on his center if his front was overextended, or on that flank by which he could more readily seize his communications, to outflank him,

27 Gabriel Fabry, *Campagne de l’armée d’Italie, 1796–1797* (Paris, 1914), 4:242–45.

to cut his line, to pursue him to the last, to disperse and destroy his forces, – such was the system followed by Napoleon in his first campaigns. These campaigns proved this system to be one of the very best.²⁸

Meritocracy and the Boulogne Camp

Napoleon inherited a military establishment that blended the professional remnants of the royal army with the legions produced by mass conscription.²⁹ During the Consulate (1799-1804) and early Empire (1804-1807), he regularized and professionalized the army using meritocracy as a driving principle. A key change made during the Revolution and continued by Bonaparte—the promotion of young, experienced, and ambitious personnel from all ranks to the highest levels—ensured that leadership remained in the hands of those who had proven their skill on the battlefield. By 1805, 64% of division commanders were under forty-four years of age. This focus on talent and battlefield proficiency created a dynamic, motivated officer corps that was essential for leading the new, flexible infantry formations.³⁰

Although Napoleon promoted officers from diverse backgrounds, he also initiated a purge of the officer corps after 1801, disproportionately retiring “worn-out” officers of “modest social background” who had risen through the ranks during the Revolution. He reinstated practices such as direct officer commissions and formal military schooling, which favored the wealthy and elite, and created exclusive units to attract “young men of good family.” This new hierarchy, while still valuing talent, represented a clear retreat from the radical egalitarianism of the Republic. His new military institution, the *Grande Armée*, proved to be a successful synthesis of contradictions, blending the meritocracy of the Republic with a return to certain aristocratic practices.³¹

28 Antoine Henri de Jomini, *The Art of War*, trans. G. H. Mendell and W. P. (Westport, CT, 1971), 90.

29 Jean-François Brun, “Les unités étrangères dans les armées napoléoniennes: un élément de la stratégie globale du Grand Empire,” *Revue historique des armées*, 255 (2009): 22-49.

30 Jean-Paul Bertaud, “L’Armée de terre à la veille de la campagne de 1805,” *Revue du Souvenir Napoléonien* 459 (Sept. 2005), accessed September 12, 2025, <https://www.napoleon.org/histoire-des-2-empires/articles/larmee-de-terre-a-la-veille-de-la-campagne-de-1805/>.

31 Rafe Blaufarb, *The French army 1750–1820: Careers, talent, merit* - Manchester Hive, accessed September 10, 2025, www.manchesterhive.com/downloadpdf/9781526158918/97

The camps along the English Channel (1803-1805), most famously that at Boulogne, ostensibly created to prepare the army for an invasion of England, provided the training ground where Napoleon forged the *Grande Armée* into a formidable instrument of war.³² Two hundred thousand men formed the army at the camp of Boulogne. This figure included a large contingent of grizzled veterans who had been conscripted by the 1793 *levée en masse*; these soldiers had twelve years of service under their belts and almost as many campaigns. Having seven years of service, soldiers drafted in September 1798 by way of the *loi Jourdan* that established a permanent, institutionalized system of military conscription by declaring “every Frenchman is a soldier” formed another large cadre.³³ Then came the inexperienced greenhorns, those conscripted after the turn of the century. The training at Boulogne proved instrumental in institutionalizing the rapid and flexible use of mixed order formations—a skill that became the hallmark of the new French infantry.³⁴ Live fire exercises and maneuvers “followed one another uninterruptedly.”³⁵ This period was crucial for training and for shaping the cohesion and *esprit de corps* that would serve Napoleon so well in the campaigns to come.³⁶

Organization and Structure

During the Consulate and early Empire (1801-1805), Napoleon moved beyond the improvised successes of the Revolution to a deliberate and systematic

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32 Jean-Paul Bertaud, “L’Armée de terre à la veille de la campagne de 1805,” *Revue du Souvenir Napoléonien* 459 (Sept. 2005), accessed September 12, 2025, www.napoleon.org/histoire-des-2-empires/articles/larmee-de-terre-a-la-veille-de-la-campagne-de-1805/.

33 Alain Pigeard, “La conscription sous le Premier Empire,” *Revue du Souvenir Napoléonien* no. 420, (oct.-nov., 1998): 3-20, accessed October 2, 2025, www.napoleon.org/histoire-des-2-empires/articles/la-conscription-sous-le-premier-empire/.

34 Kevin Kiley, “Theorists, Instructors, and Practitioners: The Evolution of French Doctrine in the Revolutionary and Napoleonic Wars 1792-1815,” accessed September 18, 2025, https://www.napoleon-series.org/military-info/organization/c_tactics.html.

35 Georges Rivollet, *Général de bataille Charles Antoine Louis Morand, comte d’Empire (1771-1835). Généraux Friant et Gudin du 3e corps de la Grande Armée* (Paris, 1963), 276.

36 Jean-Paul Bertaud, “L’Armée de terre à la veille de la campagne de 1805,” *Revue du Souvenir Napoléonien* 459 (Sept. 2005), accessed September 12, 2025, www.napoleon.org/histoire-des-2-empires/articles/larmee-de-terre-a-la-veille-de-la-campagne-de-1805/.

formalization of his military machine. The first step was the reorganization of the infantry itself. By the decree of 24 September 1803, permanent, numbered regiments of line and light infantry replaced the demi-brigades of the Revolution. Their eventual merger produced ninety infantry regiments and twenty-seven light infantry regiments. More than a bureaucratic formality, this change re-established a sense of professional identity and *esprit de corps* by giving soldiers a permanent unit with its own history and battle honors. Anecdotal evidence from regimental histories of the time supports the importance of this shift, as units began to record their exploits, from the campaigns of 1796 to the later years of the Empire. This strategic move contributed to the establishment of a stable, professional army that would serve as the instrument of a new regime.

Napoleon also extended the re-organization to the infantry battalion, codifying the distinct roles of the various companies to model efficiency. This organizational principle, with a clear chain of command from the corporal at the squad level up to the *chef de bataillon*, remained paramount for maintaining order and executing commands.²⁹ As the basic tactical unit, the battalion consisted of multiple companies, including specialized companies like grenadiers, and voltigeurs. Usually the newest conscripts, fusiliers (musketeers) formed the battalion's center companies: the mass of the column or the core of the line for either close-order combat or coordinated volleys. Composed of tall, experienced veterans, the elite grenadier companies took position on the battalion's right flank. They served as shock troops and morale boosters; just their presence inspired their comrades and intimidated the enemy.³⁷ Created by a 13 March 1804 decree, the voltigeurs represented a refinement of the revolutionary *tirailleur* concept. Forming the light company on the battalion's left flank, these agile and skilled marksmen excelled as skirmishers and scouts, executing the crucial tasks of conducting reconnaissance, harassing the enemy, and preparing the ground for the main assault.³⁸ In particular, the voltigeurs embodied the new French approach, providing a flexible and mobile vanguard that could disrupt the enemy's

37 Emmanuel Desanois, "L'organisation des armées du Premier Empire," *The Napoleon Series*, accessed September 12, 2025, https://www.napoleon-series.org/military-info/organization/c_empireorg.html.

38 "Les innovations tactiques de l'infanterie légère" accessed September 15, 2025, http://18eme-de-ligne.fr/empire/resources/img/docs/memoire_inf_legere.pdf.

rigid formations before the main body of the infantry made contact.

The psychological dimension of the French infantry proved just as critical as its tactical superiority. For example, the mere reputation of the Imperial Guard served as a force multiplier. Composed of veterans selected for their bravery and loyalty, the Guard served as Napoleon's ultimate strategic and psychological reserve, only committed at the most opportune moments to deliver the decisive *coup de grâce*. The Guard stood as the pinnacle of France's new military culture and the final expression of Napoleon's vision for his infantry. Starting with Napoleon's personal bodyguard in the 1796 Campaign, more than 180,000 men served in the Guard. Its presence alone instilled fear in the enemy and inspired confidence in the rest of the army. It was also a sure way of determining Napoleon's whereabouts. Victor Hugo once referred to the Guard as "rocks in flowing water."³⁹

Regardless, the most significant organizational innovation of this period, the creation of the *corps d'armée* system in 1803, marks Napoleon's profound contribution to modern war. Rather than provisional groups of divisions, Bonaparte made them permanent army corps in 1803 at the Boulogne camp. Consisting of infantry, cavalry, artillery, and logistical support, the corps functioned as a self-sufficient, all-arms force commanded by a general officer, in most cases a marshal. This structure allowed the army to march dispersed, more easily sustain itself by foraging, and concentrate rapidly at a single point. Napoleon's march dispositions formed the "*bataillon carré*": a flexible and efficient method of dispersing the corps along parallel routes within supporting distance. On the map, the army appears to be squared into a diamond shape with one corps on each flank, one at the tip of the diamond, and one at the rear. Forty-eight hours separated the tip from the rear, while the flanks needed only twenty-four hours to unite with the tip or the rear depending on the situation. This defensive posture protected the army from all directions while allowing it to quickly converge on the enemy after contact was made. Combined with a cavalry screen, the *bataillon carré* concealed Napoleon's intentions but provided valuable intelligence along his front and flanks. The operational freedom and security it afforded

39 Christopher Destailleurs-Henry, "La Garde Impériale de l'Empereur Napoléon Ier – Introduction," *France Bonapartiste* blog, accessed October 1, 2025, francebonapartiste-cerb.fr/2025/01/30/la-garde-imperiale-de-lempereur-napoleon-ier-introduction/.

meant that Napoleon's army could move at an unprecedented pace, surprising enemies who remained tied to ponderous, depot-based supply chains.⁴⁰

Combined Arms Warfare

Napoleon's military philosophy placed infantry at the heart of all operations. As the emperor himself noted, "Without doubt, good infantry is the sinew of an army." While cavalry and artillery could provide crucial support and deliver decisive blows, it was the infantry that enabled French armies to project power by seizing and holding ground. From company to corps, the entire organization of the army was structured to enhance the infantry's effectiveness, a testament to its central role as the arm of decision. The other arms were incorporated to multiply the infantry's power, not to replace it.⁴¹ Napoleon integrated his infantry into a fluid, combined arms system that seamlessly incorporated skirmishers, columns, lines, and squares with artillery and cavalry. Skirmishers softened the enemy and disrupted their formations while deep columns delivered a psychological shock and created breakthroughs. Infantry lines still provided concentrated firepower, and a mobile, devastating artillery supported the entire system. As the backbone of each corps but integrated into a combined arms unit, the infantry gained unparalleled tactical mobility and suppleness which, in turn, provided Bonaparte with strategic and operational flexibility.

The true genius of Napoleonic tactics lay in this fluid and dynamic system that relied on the interplay of three primary formations: the column, the line, and the skirmish screen. As noted, tirailleurs deployed in loose, open order swarms ahead of the main force to harass the enemy, disrupt his deployment, and force him to expend effort against an elusive foe. For maneuver and shock, the column's sheer density and depth gave it immense psychological power, often causing enemy formations to break before bayonet contact. In contrast, the line optimized firepower, allowing the maximum number of muskets to fire on a wide front.⁴² While slow to maneuver and less resilient to shock, it was the ideal

40 James Wasson, "The Development of the Corps d'Armée and its Impact on Napoleonic Warfare," *The Napoleon Series*, accessed September 12, 2025, https://www.napoleon-series.org/military-info/organization/c_armycorps.html.

41 Ibid.

42 Stéphane Béraud, "La ligne anglaise était supérieure à la colonne française," in *Les Mythes de*

formation for a defensive position or a prolonged firefight. Napoleon's favorite formation, this tactical triad, capitalized on the unique strengths of shock and firepower. It offered a versatile concept of many variations that could be used depending on the situation and the commander. The effective use of the *l'ordre mixte* depended on the initiative and judgment of lower-level commanders, from marshals down to the individual battalion commanders. This starkly contrasted with the more rigid, centralized command of many of Napoleon's adversaries, whose formations lacked the capacity for out of the box thinking or on-the-spot adaptation.

As a hybrid system, *l'ordre mixte* perfectly blended strengths, allowing a regiment, brigade, division, and even a corps to advance quickly in columns while a central line provided suppressing fire. For example, during the 6 July 1809 Battle of Wagram, Napoleon directed General Étienne Jacques Macdonald's V Corps to fill a gap on the French left that Austrian cavalry threatened to exploit. To do so, Macdonald formed his twenty-three battalions into a huge mixed-order formation some 800 meters long and 550 meters wide. Its front consisted of eight battalions formed in two lines while eight battalions in column formed the right flank and four battalions in column formed the left. Three battalions in individual columns side by side made the rear. Rumbling forward, it filled the gap and advanced against the enemy line to fix the Austrian forces in this sector so they could not reinforce other sectors of the line. Although sustaining some two-thirds casualties and failing to break through, the formation served Napoleon's initial need.⁴³

Triumph of System

The Battles of Austerlitz and Jena-Auerstedt are textbook examples of the French system integrating infantry, as the central arm, into a larger combined-arms system to achieve victory. At Austerlitz, the infantry delivered the decisive blow. Napoleon's feigned weakness drew the Allied forces off the Pratzen Heights, weakening their center. At 9:00 AM, as the sun broke through the

la Grande Armée, eds. Thierry Lentz et Jean Lopez (Perrin, 2022).

43 Gunther Rothenberg, *The Emperor's Last Victory: Napoleon and the Battle of Wagram* (London, 2004), 191-95.

fog, Marshal Nicolas Jean Soult's IV Corps launched a coordinated infantry assault up the slopes of the Pratzen. Supported by a heavy artillery bombardment and preceded by skirmishers, dense French columns smashed through the Allied center, allowing other formations to maneuver and complete the encirclement of the Allied right. This battle perfectly illustrates infantry, supported by the other arms, delivering the decisive blow of a tactical plan. Austerlitz demonstrated that as a semi-autonomous unit, the corps could link the broader strategic vision of the field commander with the tactical effectiveness of the infantry on the ground. The French victory was a product of flawless strategic deception, rapid force concentration, and the synchronized application of combined arms, all enabled by the infantry's flexibility.

Less than one year later, the twin battles of Jena-Auerstedt on 14 October 1806 provided the ultimate proof of the French system's superiority, even in Napoleon's absence. While Napoleon's main force achieved a sweeping victory over the Prussians at Jena, the more telling engagement occurred twenty kilometers to the north at Auerstedt. There, Marshal Louis-Nicolas Davout's III Corps, composed almost entirely of infantry, faced the main Prussian army. Outnumbered more than 2-to-1, Davout's infantry fought a grueling, all-day battle against a numerically superior foe. The discipline, training, and resilience of the French infantry, combined with the brilliant command of Davout, secured a stunning victory. This triumph, achieved without cavalry support and in isolation from the main army, demonstrated that Napoleon had built a system that could win even in his absence. It was a clear testament to the maturity and professionalism of the force he had forged.

The French infantry's evolution and success cannot be viewed in a vacuum. Like the rest of the army, the infantry was part of a sophisticated command and logistical structure that set it apart from its contemporaries. At the heart of this system was the command duo of Napoleon and his chief of staff, Marshal Alexandre Berthier. While Napoleon provided the strategic and operational vision and the high-level orders, Berthier had the immense task of translating those directives into concrete, executable directives for the corps commanders, all while overseeing a complex logistical chain that Napoleon's role as head of state, commander in chief, and army commander made necessary.⁴⁴ This part-

44 "Napoléon, plus grand général ou stratège de l'Histoire?" *L'Institut des hautes études de*

nership was crucial for ensuring the rapid and coordinated movement of the *Grande Armée*, allowing Napoleon to execute his dispersed movement and concentrated combat.

Impact Across the Levels of War

The adoption of flexible, mixed formations and the widespread use of skirmishers marked a decisive break from the linear tactics of the eighteenth century. During the Revolution, emphasis shifted from precise formations and volley fire to speed, maneuver, and the moral effect of massed battalions. Napoleon trained his infantry to advance under fire, trusting in the depth of the column and the courage of the men to reach the enemy and deliver a decisive blow. This new paradigm was not about outshooting the enemy but about breaking his will to fight, thus leaving him unable to fight. This mirrored Napoleon's strategy, breaking the enemy's will and rendering him unable to continue the war. Just as the corps system was cornerstone of Napoleon's operational and strategic success, the infantry's tactical flexibility formed the cornerstone of his battlefield success. As with strategy and operations, this new tactical level of war required a new kind of leadership endowed with initiative and *coup d'œil* (fast comprehension and judgment) to adapt to the fluid reality of combat.

Napoleon's most significant operational innovation, the *corps d'armée* system, was built around the capabilities of the new infantry. Being a self-contained, combined arms "miniature army" with its own infantry divisions, cavalry, artillery, and support services granted the corps unprecedented operational flexibility and speed. Powered by the infantry's rapid march rates (often exceeding forty km/day), distributed maneuver enabled Napoleon to force his opponents to accept battle on unfavorable terms. Equally important, the corps system kept the enemy off balance, uncertain where the main blow would fall and from what direction. Logistical autonomy facilitated the corps system's flexibility, thus liberating Napoleon from the tyranny of the supply chain.

Yet the enhanced mobility of the Napoleonic infantry was not just a logistical improvement; it was the engine of Napoleon's entire strategic doctrine of seek-

défense nationale (L'IHEDN), 20 novembre 2023, accessed September 22, 2025, <https://ih-edn.fr/notre-selection/napoleon-plus-grand-general-ou-strategie-de-lhistoire/>.

ing the decisive battle. This is a key causal link: the infantry's enhanced speed at the operational level (marching and maneuvering) enabled the strategic pursuit of a decisive battle. Thus, the infantry's capacity for rapid movement became the linchpin of Bonaparte's new form of warfare. The evolution of the operational level of war and the tactical changes that were made possible by the French infantry enabled a strategic shift from the eighteenth-century war of position to a war of movement and annihilation. Napoleon's campaigns sought to destroy the main enemy army in a single, decisive battle. As the arm of decision, the infantry served as the primary tool for achieving this strategic goal. The Ulm campaign (1805) and the Jena-Auerstedt campaign (1806) are perfect illustrations: Napoleon's forces moved so quickly that they outflanked and enveloped their opponents before they could react.

Decline

In 1803, Napoleon re-established permanent regiments. Two years later, he created the corps system, thus professionalizing the infantry and granting it unparalleled strategic mobility and self-sufficiency. From 1805-1807, his campaigns showcased the full potential of this matured system. The infantry's ability to execute complex strategic maneuvers, as seen at Austerlitz, and to win against overwhelming odds, as demonstrated at Auerstedt, proved its battlefield superiority. Its dominance should be attributed to a combination of institutional and tactical flexibility. The adoption of the *l'ordre mixte* and the widespread use of skirmishers allowed French infantry to combine shock, firepower, and maneuverability in a way that their enemies could not. A new kind of command culture, where generals led from the front, and the high morale of the soldiers became weaponized, amplified this tactical edge. The Imperial Guard provided a psychological deterrent as well as a strategic reserve. In either capacity, the Guard could deliver the decisive *coup de grâce* at the most opportune moment.

Yet the years between 1808 and 1813 represent a critical and transformative period in the military history of the First French Empire. Napoleon's formidable infantry, once lauded for its prowess and discipline, underwent a profound and ultimately fatal decline in quality. This erosion was a direct consequence of the immense strategic pressures of a two-front war, which forced a funda-

mental shift in the composition of the army. Once a force of seasoned French veterans, a heterogeneous and less reliable body of mass-conscripted youths and multi-national allied contingents formed the core of Napoleon's forces during the latter half of the empire. This qualitative decline had cascading effects on all three levels of war, progressively weakening Napoleon's ability to wage rapid, decisive campaigns and, in the end, precipitating the unraveling of his empire.

The transition commenced in 1807 after the bloody and largely indecisive battle with the Russians and Prussians at Eylau. Having lost 25,000 men and suffering the consequences of strategic consumption as he campaigned in the area south of modern Kaliningrad, the emperor summoned his allies to provide reinforcements. Consequently, three Saxon battalions and one cavalry brigade (3,900 men and 700 troopers) and one division of Poles (4,060 infantry; 700 troopers) participated in Napoleon's 14 June 1807 victory over the Russians at Friedland while other German contingents provided rear area security for his overextended line of communications. Victory at Friedland ended the War of the Fourth Coalition (1806/07) and resulted in a Franco-Russian alliance (1807-1811).

Believing his rear to be secured by his new Russian partner, Napoleon turned his attention to Iberia. Grand Strategic ambitions led him to invade Portugal in November 1807. He followed the conquest of Lisbon with a military buildup in Spain, a French ally, ostensibly as a prerequisite for the occupation of Portugal. He quietly directed over 150,000 troops of the *Grande Armée* from their cantons in Germany across France and over the Pyrenees. To replace this manpower, he enforced the treaty obligations that required his German allies, the *Rheinbund*, to provide an army of 60,000 men. For rear area security, he forced the Prussians to sign the humiliating Treaty of Paris on 8 September 1808 that limited the size of their army to a mere 42,000 men.

The Spanish responded to the French presence with a violent and widespread popular uprising. A form of irregular warfare waged by the *guérilla* in the countryside and the urban population in the fortress cities challenged the French way of war.⁴⁵ Almost every region in Spain formed organized resistance; commoners either became guerrillas or joined the Spanish army. A pivotal moment arrived

45 Jacques-Olivier Boudon, "La guerre d'Espagne: De Bayonne à Baylen," *Napoléon Ier - le magazine du Consulat et de l'Empire* 1, (March-April 2000), www.napoleon.org/histoire-des-2-empires/articles/la-guerre-despagne-de-bayonne-a-baylen/.

in July 1808 at Baylen, where a Spanish army forced 17,000 men of the isolated French 2nd Gironde Observational Corps to surrender. This stunning blow shattered the myth of French invincibility. It suggested that Napoleon's armies could not contend with a combination of conventional forces and popular resistance.⁴⁶ The rest of Europe took note.

In response, Napoleon personally intervened. He assembled over 200,000 veterans in Spain and conducted a Blitzkrieg campaign that smashed four Spanish armies and drove a British army into the sea at Corunna. Despite this success, the underlying popular resistance proved impossible to extinguish. Consequently, the Peninsular War devolved into a protracted, attritional struggle that consumed the Empire's most valuable military resources, including the superbly trained and experienced veterans of the *Grande Armée*. Rather than lead an offensive against a second British force in Portugal commanded by Sir Arthur Wellesley, Napoleon left the task to his marshals and departed Iberia. The emperor returned to Paris in early 1809 out of concern over Central Europe. His army's setbacks in Iberia gave hope to the Austrians, who had suffered defeat at the hands of the French in the wars of the First (1792-97), Second (1798-1801), and Third (1805) Coalitions. Believing that Napoleon intended to dispossess them, the Habsburgs opted for war in 1809, making common cause with the British to form the Fifth Coalition. Russia did not come to Napoleon's aid and Prussia remained too weak from its collapse during the War of the Fourth Coalition to support either side.

War in Central Europe posed significant challenges for Napoleon. With his best troops engaged in Spain, he had to depend on the forces of his German allies and build a new conscript army from the classes of 1808-1810.⁴⁷ Recognizing the inexperience and relative fragility of this new infantry, he implemented a profound shift in his tactical doctrine. Napoleon's traditional infantry-centric *manœuvre*, which relied on rapid movement and the disciplined cohesion of vet-

46 José de la Piza, "Napoleon's Nightmare: Guerrilla Warfare in Spain (1808-1814): The French Army's Failed Counterinsurgency Effort," United States Marine Corps Command and Staff College, MA thesis, 2011, iv-v.

47 Alain Pigeard, "La conscription sous le Premier Empire," *Revue du Souvenir Napoléonien* no. 420, (oct.-nov., 1998): 3-20, accessed October 2, 2025, www.napoleon.org/histoire-des-2-empires/articles/la-conscription-sous-le-premier-empire/.

eran forces, was no longer consistently viable. From then on, his infantry lacked the speed of maneuver, the endurance, and the specialization derived from the intensive training at Boulogne and the pragmatic experience of war. Napoleon's infantry lost its formidable fluidity. Unable and perhaps unconcerned about restoring it, he attempted to increase the infantry's organic firepower. On 24 May 1809, he decreed a new system of regimental artillery that assigned two light guns, mainly captured Austrian three-pound pieces, to each infantry regiment. While he ultimately canceled this expedient on account of significant logistical hurdles such as the disparity of captured guns and a shortage of horses and trained personnel, the reason behind it reflected the end of the infantry's role as the centerpiece of the attack.⁴⁸ Although it remained an integral component of a combined arms approach, the infantry's deficiencies in training and morale rendered it the chain's weakest link, thus restricting Napoleon on all three levels of war.⁴⁹

Instead of finesse and timing, he increasingly relied on the systematic use of massed infantry formations and especially massed artillery, a tactic aimed at compensating for the diminished reliability of his infantry. The ratios between the number of pieces to the number of soldiers confirms this increase: at Austerlitz, the ratio was 139 guns to 82,000 men (1/590); at Wagram, 488 guns supported 137,291 men (1/281) but altogether the imperial forces assembled stood at 617 guns and 188,965 men (1/306); at the 1812 Battle of Borodino: 587 guns supported 120,000 men (1/204) while the culminating battle of the 1813 campaign, Leipzig, saw a ratio of 1/308 (600 guns to 185,000 men). Such an increase gives credence to the purported statement by Napoleon: "it is with artillery that one makes war."⁵⁰

48 Didier Davin, "1809-1813: L'artillerie régimentaire dans l'infanterie impériale," *SEHRI The Blog*, 13 August 2018, accessed October 3, 2025, sehrileblog.wordpress.com/2018/08/13/1809-1813-lartillerie-regimentaire-dans-linfanterie-imperiale/.

49 Jean-François Brun, "L'artillerie française dans la campagne de 1809," *Revue du Souvenir Napoléonien* no. 481 (oct.-déc, 2009), accessed October 2, 2025, www.napoleon.org/histoire-des-2-empires/articles/lartillerie-francaise-dans-la-campagne-de-1809/.

50 Jean-François Brun, "L'artillerie française dans la campagne de 1809," *Revue du Souvenir Napoléonien* no. 481 (oct.-déc, 2009), accessed October 2, 2025, <https://www.napoleon.org/histoire-des-2-empires/articles/lartillerie-francaise-dans-la-campagne-de-1809/>.

The Grande Armée of 1812: A Multinational Colossus

The Russian campaign of 1812 marks the culmination of the shift toward a mass-conscripted, multi-national military model. Representing the largest European army ever assembled up to that time, the *Grande Armée* of 1812 numbered approximately 680,000 men. Its composition reflected the Empire's immense territorial extent as well as Napoleon's reliance on allies for military support. Some 330,000 non-French nationals integrated after the annexation of their country as well as contingents of allied "volunteers" joined 350,000 French soldiers. A mosaic of nationalities, this contingent highlighted Napoleon's dependency on non-French forces.

Nationality	Estimated Troop Strength	Proportion of Total Army
French (including Belgians and Dutch)	350,000	51.5%
Polish	95,000	14.0%
German	90,000	13.2%
Austrian	35,000	5.1%
Italian	25,000	3.7%
Swiss	12,000	1.8%
Spanish	4,800	0.7%
Other	63,200	9.3%
Total	680,000	100.0%

Aside from the bloodbath in Iberia, tens of thousands of these soldiers had benefitted from three years of peace and received sufficient training. While it still paled in comparison to the *Grande Armée* of 1805, that of 1812 had several attributes not least experienced NCOs and battle-hardened flag officers. Although Napoleon's inability to force the two opposing Russian armies of approximately 200,000 men combined into a decisive battle can in part be blamed on his less than brilliant performance on the operational level, problems caused by the rank

and file probably compounded if not directly contributed to the failure of his pinning and enveloping operations. For every trained veteran serving the French eagle, there was a raw conscript who could not bear the physical and emotional toll of traversing the Russian Steppes day after miserable day. Suicide became an issue, especially among the young German troops, while desertion peaked at an estimated 5,000 to 6,000 men per day. The sheer size of this multi-national force, combined with the immense logistical challenges of the Russian interior, immediately exposed the inherent weaknesses of its composition. As the army moved further from the border, it suffered from the brutal heat of the Russian summer and the breakdown of logistics in part due to the death of hundreds of horses and mules. As the *Grande Armée* marched almost 70 kilometers every day, the wheat convoys could hardly reach the most advanced troops. Hunger quickly became the main concern and during July and August, about one-third of the army faced starvation. Lack of food led to malnutrition and disease, particularly typhus; lack of footgear exacerbated the physical toll of the march. A pair of shoes supplied by the army wore out after marching for some 1,000 kilometers, or about one month's time.⁵¹ After summer yielded to autumn, the troops had to endure heavy rains that turn paths into quagmires where man and beast floundered. The march on Moscow slowed considerably as the appalling climate further degraded troop morale.⁵²

Supply difficulties prevented Napoleon from driving his great mass of infantry forward as quickly as he wanted. While the question of whether the *Grande Armée* of 1805 would have fared any better in Russia than that of 1812 remains open for debate, it is safe to say that the multi-national, conscript-heavy army lacked the resilience and shared purpose of Napoleon's earlier, veteran forces. Moreover, a crisis of logistics and cohesion caused the operational failure in Russia long before the first snows fell. After reaching Moscow, the symptoms of this breakdown could be seen in the disorder and excesses committed by the soldiers. Their various origins coupled with the extreme physical hardships to fragment the army. It became less a unified fighting force and more a collection

51 Laurent Brayard http://french.ruvr.ru/2012_06_24/Campagne-de-Russie-1812-histoire/. The Voice of Russia Голос России.

52 "La campagne de Russie: le plus grand désastre militaire de la France," accessed September 21, 2025, <https://clg-doisneau-gonesse.ac-versailles.fr/spip.php?article96>.

of exhausted, disparate contingents, unable to maintain order or effectively pursue the enemy. This fragmentation left it vulnerable to the catastrophic blow of the Russian winter that completed its destruction.

The German Campaign

Following the near-total annihilation of the *Grande Armée* in Russia, Napoleon raised a new army from the very foundations of his imperial system. Massive and frequent levies throughout 1813 totaled 1 million men.⁵³ The quantitative demands placed on French, German, and Italian manpower reached unprecedented levels, demonstrating Napoleon's final, desperate gamble to compensate for the cataclysmic losses of the previous years. As can be expected, the quality of these new recruits was demonstrably low due to their lack of training and military ignorance. During the ensuing 1813 Spring Campaign against the Russian and Prussian forces of the Sixth Coalition, Napoleon benefited from the fact that the former had suffered considerably in 1812, and the latter initially fielded low numbers.

Napoleon's young infantry fought two major yet indecisive battles in May 1813. In the first, the 2 May encounter battle at Lützen, his troops met mainly the Prussians in a literal sausage grinder. Dead infantry from both sides was so tightly packed on the battlefield that horses could not find sure footing. Although the pattern of employing mass batteries and launching human wave frontal assaults continued, Napoleon returned to a degree of operational finesse. By the end of the battle, his young foot soldiers had marched fast enough to *almost* double envelop the Russo-Prussian army, which would have led to the capture of the Tsar of Russia and King of Prussia. Instead, the Allies retreated bloody but unbroken. Napoleon won the field but absorbed almost twice as many casualties as the Allies. Worse, his infantry was too exhausted to conduct a pursuit, and he lacked sufficient cavalry to exploit the victory.

On 21-22 May, Napoleon assaulted the Russo-Prussian army in its heavily fortified camp at Bautzen east of the Spree River. Again, he drove his infantry forward into the teeth of the enemy and again he attempted to end the war

53 Annie, Crépin, *Vers l'armée nationale* (Rennes: Presses universitaires de Rennes, 2011). <https://doi.org/10.4000/books.pur.122433>.

through maneuver. Unknown to the Allies, while Napoleon held them in place, a second French army was conducting an envelopment of their right. Fortunately for them, the commander of the enveloping force, Marshal Michel Ney, turned southwest instead of southeast. Instead of landing on the sole Allied line of retreat, he was stopped by the steep heights that protected the Allied right flank. Alerted to the danger, the Coalition army withdrew. Napoleon's infantry fought well at Bautzen, forcing a river crossing under intense enemy pressure. If not for Ney, his troops marched at a rate that placed them in a position to achieve decisive results. Again, the Allies conceded the field, again Napoleon could do little to parley the victory into a *Vernichtungsschlacht*, and again he sustained almost twice the casualties as his enemy.

Early June found the Allied army at Breslau with Napoleon closing in for a third battle. Increasing discord between the Russians and Prussians placed the Allies on the verge of separating with the former retreating deeper into Poland and the latter making a stand at Schweidnitz. Before this could occur, news arrived that an Austrian-brokered armistice had been signed on 4 June. If Napoleon had known that the Coalition was teetering on the brink of collapse, he would have never accepted mediation. Yet the condition of the army resembled the condition of his forces when they reached Moscow the previous year. Between May and June 1813, his army marched 300 kilometers from the Saale River to the Oder. After one month of hard campaigning the names of 90,000 men filled the sick lists. As in Russia, supply collapsed, leading Napoleon to admit that the army was starving. His teenaged conscripts, whether French, German, or Italian, had fought hard but could go no further. His want of cavalry and the inability of the young legs of his infantry to maintain pressure on the Allies after the victories at Lützen and Bautzen all figured into his decision to accept the armistice.

Napoleon used the reprieve to fix the problems that plagued his army during the Spring Campaign and to massively reinforce his legions with conscripts who received much more training than those who had fought at Lützen and Bautzen. After Austria joined the Sixth Coalition and the war resumed in August, superior Allied strategy and operations made possible by the famous Reichenbach-Trachenberg Plan denied Napoleon the opportunity to wage a decisive campaign. Instead, the Allies focused their attacks on imperial forces operating beyond the

emperor's direct control. These armies, mainly the Army of Berlin and the Army of the Bober, consisted of French, German (Bavarian, Saxon, and Badener), and Neapolitan divisions. In the defeats that these French armies sustained, the imperial infantry divisions maintained their composure while the French broke and fled. This of course speaks to the general war weariness that pervaded not only the French people, but the French officer corps as well during the empire's twilight.

For Napoleon's infantry, the 1808-1813 period marked a profound and irreversible decline. Forced to confront the twin burdens of a protracted attritional war in the Iberian Peninsula and a massive conventional conflict in Russia and then Central Europe, Napoleon's strategic and operational capacities progressively eroded. Iberia, Napoleon's "bleeding ulcer," represented a massive drain on the army's most experienced infantry and leadership. By 1812, an estimated 300,000 French troops were tied down in the Peninsula, with killed and wounded for the French and their allies estimated to be in the same range if not higher. The Peninsular War was not merely a tactical problem, but a strategic catastrophe. Napoleon's military system was designed for rapid, decisive campaigns, yet the Iberian conflict became a prolonged, grinding struggle.

Diverting a substantial portion of the veterans of the 1805-1807 campaigns to this theater compelled Napoleon to utilize increasingly less experienced pools of conscripts and allied troops. Consequently, the composition of the *Grande Armée* shifted dramatically from a force of loyal, experienced Frenchmen to an unwieldy, multi-national host of young conscripts. This decline in quality was a tangible reality that forced Napoleon to deviate from his proven operational and tactical principles and instead rely on compensatory measures, such as massed artillery and human wave attacks to mask the deficiencies of his infantry. Ultimately, the fate of Napoleon's infantry during this period is reminiscent of that of the Roman army, both of which serve as microcosms for the final years of both empires. His strategic and operational failures in Russia and Germany were direct consequences of the infantry's crumbling foundation. The spectacular collapse in 1812 and the sacrifice of an army of teenagers in 1813 offers devastating proof that Napoleon's war machine could no longer sustain the weight of his imperial ambitions. It was a machine that had been hollowed out from within, leaving behind only the shell of its former glory.

Conclusion

From 1763 to 1815, the evolution of the French infantry represents a journey of profound change, demonstrating the powerful and often paradoxical relationship between a military institution and its host society. Like most states, a rigid aristocratic hierarchy controlled France's *ancien régime* army. Although the theoretical, evolutionary changes advanced by enlightened warrior-scholars were ahead of their time, a society unwilling to prioritize merit over privilege rather than typical institutional inertia prevented their full implementation. The ideas that came to define Napoleonic infantry tactics—combined arms interplay, the dispersion of forces in mini armies, the use of maneuver to surprise the enemy, mixed order formations—had been in circulation for decades. However, the French army, with its culture of eighteenth-century positional warfare, did not offer fertile ground for their application. The command system, the privileges of the nobility, and the minimal mobility of troops encumbered with a heavy logistical train constituted major obstacles to the implementation of these progressive doctrines. Thus, the Royal Army lacked the institutional flexibility and ideological motivation necessary to adopt new methods. Therefore, the Revolution did not invent the art of mass warfare, but instead it eliminated social and political barriers to allow abstract concepts to become military realities. The Revolution shattered the ossified structure of the *ancien régime*, creating a new mass army of citizen-soldiers whose greater flexibility and sheer numbers compensated for lack of training. Born of pragmatic necessity, this societal upheaval led to the adoption of the new, the tactical doctrines suggested during the introspection that followed the Seven Years War.

Of course, the myth of the citizen-soldier can neither be fully accepted nor entirely refuted. Historians such as John Lynn and T. C. W. Blanning have argued convincingly for either side respectively. At its height, Revolutionary France fielded between 750,000 and 1,500,000 soldiers. Among these hundreds of thousands, motivation and the willingness to make the ultimate sacrifice would range widely. To think that defending their constitution was foremost on the minds of raw conscripts charging an artillery battery borders on naivety. At times in 1796, the soldiers of General Bonaparte's Army of Italy waged war for reasons akin to the material motivations of the ill-disciplined hordes of the Thirty Years War: to fill their empty bellies, clothe their bare backs, shod their aching

feet, and satisfy their base needs. Conversely, sufficient evidence is available to support the notion that the French citizen-soldier displayed more than a simple quantitative advantage over his *ancien régime* foe. At Valmy in 1792, the French troops maintained their composure, purportedly intimidating the Prussians with shouts of *Vive le nation* and songs like *La Marseillaise* and *Ça Ira*. Motivated by ideology and bolstered by the morale of “*le grande nation*,” the citizen-soldiers held their ground against the stout Prussian professional. Observing the French conscripts from the Prussian lines, Johann Wolfgang von Goethe judged that “here and today begins a new epoch in the history of the world.” Four years later, Bonaparte’s same army at times conducted almost miraculous feats of stamina and *élan* in appalling conditions. Consequently, the truth is somewhere in between, leaving much room for continued historical inquiry.

The development of French infantry was a multifaceted process. It began with the political and demographic realities of the French Revolution, which demanded a new, more robust yet simpler tactical system. Napoleon’s ability to synthesize the two disparate periods remains paramount. He took the intellectual seeds of the *ancien régime*—the concepts of mobile artillery, combined-arms, and maneuver warfare—and combined them with the social and tactical innovations of the Revolution: the mass army, the column/skirmisher system, and *l’ordre mixte*. Through intensive training and a new organization, the *corps d’armée*, Napoleon institutionalized evolutionary processes such as the column and the skirmisher, and the emphasis on speed and mobility. Revolutionary changes, particularly the opening of the officer corps to men of talent, imbued French armies with very best military leaders that France could offer: Napoleon himself was the product of this meritorious system. His marshals, generals, and colonels were long-serving professionals who had earned their rank through performance rather than birth. The same could be said of the NCOs that formed the army’s nervous system.

Napoleon’s infantry provided a flexible, shock-oriented instrument capable of adapting to any battlefield condition. Due in large part to the infantry, the *Grande Armée* was a military machine of unprecedented speed, flexibility, and power, capable of executing a new form of warfare. As the Napoleonic Wars wore on, the identity of the infantryman continued to evolve. However, ceaseless bloodshed eroded manpower and morale, leading to rampant desertion

and draft-dodging. Napoleon's reliance on conscription grew, and his army increasingly drew on troops from conquered and allied states. The infantryman's identity shifted from a citizen-soldier defending the Republic to a loyal tool for imperial conquest, with motivation driven by loyalty to the emperor and the pursuit of glory.

Aside from the psychological transformation of France's citizen-soldier to imperial warrior, quantitative and qualitative changes occurred that separated the *Grande Armée* of 1805 from the armies Napoleon commanded during the latter half of the empire. In 1808, he cut the strength of the infantry battalion from nine to six companies, making it on par with the battalions of most other European armies. Although this reduction by one-third made the battalion easier to maneuver and provided cadres to quickly expand the total number of battalions, it decreased the overall force and effectiveness of the individual battalion, whether in line or column. Increasing the Guard's strength contributed to the gradual attrition and ultimate absence of experienced line infantry. In terms of quality, the *Grande Armée* of 1805 did not live past 1807. Of those battle-tested dreadnoughts, only III Corps fought against the Austrians during the 1809 War of the Fifth Coalition while I, V, and VI Corps continued to campaign in Iberia and II Corps guarded French-occupied Italy; VII Corps had been destroyed at Eylau. For the 1809 Campaign in Germany, Napoleon had to form a new army by turning the recently recruited 4th battalions into provisional regiments and drafting 100,000 conscripts.⁵⁴

The period from 1763 to 1815 witnessed the end of the limited "cabinet wars" of the eighteenth century and the dawn of a new era of national conscription and total war. The development of the French infantry in this period proved that an army's power is not solely based on technology or tactics but is inextricably linked to the social and political structure of the nation it serves. From 1796 to 1807, the French infantry underwent a profound evolution, transforming from the improvised, raw levies of the Revolution into the disciplined, professional, and strategically potent instrument of the First Empire. By harnessing the institutional legacy of the Revolution—notably the *levée en masse*

54 Jean-François Brun, "L'artillerie française dans la campagne de 1809," *Revue du Souvenir Napoléonien* no. 481 (oct.-déc, 2009), accessed October 2, 2025, www.napoleon.org/histoire-des-2-empires/articles/lartillerie-francaise-dans-la-campagne-de-1809/.

and the *amalgame*—and combining it with a flexible tactical doctrine and a new organizational structure, Napoleon forged a force capable of rapid maneuver and decisive combat that could sustain a pace of campaigning previously unseen in European warfare. Logistical flexibility, made possible by the self-sufficient nature of the corps system, allowed the French infantry to win campaigns in weeks rather than months. While this system could, and did, lead to hardship and excesses in occupied territories, it was a crucial factor in achieving the strategic surprise and rapid maneuver that characterized Napoleon's operational art.

The French infantry evolved as a direct response to the strategic necessity of mass conscription, which demanded a tactical shift away from the formalistic doctrine of the eighteenth-century. New tactical formations via the mixed order and the widespread use of skirmishers emerged not from military genius alone, but from the practical demands and flexible options of a new type of warfare. Napoleon's genius lay in recognizing this shift and institutionalizing it through intensive training and organizational reform, bridging the gap between massed conscript armies and battlefield professionalism. The transition from the revolutionary demi-brigade to the *corps d'armée* was a shift from a pragmatic solution to a deliberate design. The *amalgame* was a necessary fix for a time of crisis, blending two disparate military forces. In contrast, the return to the regiment system under Napoleon was a long-term strategic decision aimed at formalizing the army, creating a sense of permanence and tradition, and solidifying a new military and dynastic identity. By transforming the infantry into a professional, cohesive, and permanent instrument of his strategy, Napoleon established the operational foundation of his campaigns. Profound and enduring, the influence of the corps system and its complete reliance on the infantry's new capabilities became the organizational standard for armies worldwide for the next century. Mobility, the quest for the decisive battle, and the dynamism of combined arms interplay remain fundamental principles of military doctrine to this day. Forged around the enduring power of its infantry, the *Grande Armée* represented a major turning point in the history of warfare.

Austria's Infantry 1792–1815: Guarantors of the Empire

by JOHN H. GILL (JACK)

During the long era of the French Revolutionary and Napoleonic Wars, no state contributed more land forces more consistently than Austria under the Habsburg dynasty. When it launched its war against France in April 1809, for example, the Habsburg host numbered roughly 600,000 men in its field army and reserves. Similarly, Vienna's initial contribution to the Coalition cause in 1813 amounted to nearly half a million men under arms, a figure that would grow as reserves were mobilized and dispatched to the theatres of war. Furthermore, only Great Britain exceeded Austria in terms of the number of months and years during which it was committed to war against the French Republic and Empire. These massive armies were founded on foot soldiers. As the Archduke Charles, younger brother of the reigning Kaiser Franz and Austria's most talented general, would write, 'Infantry is the core of the armies. It is suitable for offense as well as defense, to combat at a distance as well as melee, to the blockading of fortresses as well as their occupation: it functions independently as well as in conjunction with other arms in the most open as well as in the most obstructed terrain'.¹

The long contest with Republican and Imperial France underscored the importance of Austria's infantry, but the concomitant shifts in the nature of warfare posed severe challenges to the empire's troops as the army struggled to adapt to changing battlefield dynamics in the face of an innovative and energetic foe. This chapter will investigate how the principal component of Austria's armies,

1 Archduke Charles, 'Von der Infanterie', *Ausgewählte Schriften* (Vienna, 1894), V, 111; Gunther E. Rothenberg, *Napoleon's Great Adversaries: The Archduke Charles and the Austrian Army 1792–1814* (Bloomington, 1982), 11, 126; *Krieg 1809* (Vienna, 1907), I, 72–3, 627–8; *Befreiungskrieg 1813 und 1814* (Vienna, 1913), II, 312–5.

the infantry, responded to the sudden and dramatic changes in warfare that plagued their forces in the field and how the monarchy endeavored to overcome identified deficiencies with tactical and structural reforms. It will also discuss the inhibitions inherent in the empire that conditioned—or impeded—reform efforts. This survey will thus trace the ways in which Austria's infantry evolved, or failed to evolve, while also illuminating some aspects of Austrian state policy, strategy and tactics as the Danube monarchy laboured to navigate this violent epoch.

Army on the Edge of War: Composition and Character

When it took the field against Republican France in 1792, the Austrian army was an amalgam of units differentiated by regional origin and function, firmly rooted in the traditions and practices of the 18th century.

In terms of weapons and composition, Austria's infantrymen resembled those of most other major European powers. That is, most of its soldiers were drawn from the lowest social classes within the empire and were issued a variety of smoothbore muskets (short-lived experiments with novel breechloaders and air rifles notwithstanding). Numbers were significantly bolstered by recruiting foreigners from across the continent (up to one-third of each battalion), especially Germans from the congeries of minor states comprising the Holy Roman Empire. Most of these men were peasants, landless labourers, or the urban poor, often 'vagrants and undesirable persons', in other words, those who lacked the protection of wealth or status, or those who were seen as not contributing to the empire's economy.² Enlistment was for life, prompting many to shun recruiters and seek one of the many exemptions to avoid conscription. Welshman Henry Lloyd, who had served both with and against Austrian troops, wrote that the common soldiers were 'obedient and patient, and bear without a murmur the greatest hardships ... By education and temper little disposed to reason about causes and events; and therefore very proper to form a good soldier'. Or, in the words of an official memorandum composed early in the wars: 'The common soldier is a machine and must remain so, because he will otherwise not accept

2 *Krieg gegen die Französische Revolution* (Vienna, 1905), I, 201–2; Alphons von Wrede, *Geschichte der K. und K. Wehrmacht* (Vienna, 1898), I, 103.

being led to be shot dead for his meagre daily pay whenever circumstances demand'.³

The multinational nature of the empire and the complexities of Habsburg history were reflected in its army. In the first place, it was a decidedly dynastic rather than national force, unified by loyalty and duty to the Kaiser reinforced by religious obligation to the person of the monarch. Soldiers were to be motivated by piety and by attachment to their regiments within the strictures of rigorous discipline. It was commonly believed, as a junior officer remarked, that only draconian measures could compel 'Hungarians, Croats, Romanians, Italians, Bohemians, Moravians, Poles, Wallachs, Slavonians and Roma to march under one flag and fight for a cause completely unknown to them and which they would not understand in the least even if it were known'.⁴ The infantry's governing regulations thus demanded mechanical obedience underwritten by dire threats, informing officers among other things, that a soldier 'will be cut down on the spot' if he 'defies orders, speaks timidly, or praises the enemy's stance and strength' during combat.⁵

Second, the army's infantry was divided into three principal elements, each with different enlistment rules, and each with a slightly different organization. The largest number of regiments (39 in 1792) were termed 'German' even though their conscription and recruiting districts were in Bohemia, Moravia and Slovenia as well as the German speaking regions of the empire. They shared a similar organization with the five Walloon and two Italian regiments: each composed of three line battalions and two grenadier companies. The line infantry also included 11 Hungarian regiments recruited from the Kingdom of Hungary under slightly different arrangements and with unique uniforms and organization, each with four line battalions and two grenadier companies. Regardless of origin, each German and Hungarian battalion had an attached artillery detachment of three guns, and all the grenadier companies were combined to form separate

3 Henry Lloyd, *Reflections on the General Principles of War; and on the Composition and Characters of the Different Armies in Europe* (London, 1781), xxxvi; Moriz Edlen von Angeli, 'Die Heere des Kaisers und der Französischen Revolution im Beginn des Jahres 1792', *Mittheilungen des K. und K. Kriegs-Archivs*, 1889, IV, 88.

4 August Ellrich, *Humoristische und historische Skizzen aus den Jahren der Revolutions-Kriege* (Meissen, 1835), 231–2.

5 *Reglement für die sämmtlich-Kaiserlich-Königliche Infanterie* (Vienna, 1769), 18.

battalions that functioned as an army reserve (Austria did not field combat guard units), entirely independent of their home regiments. Regimental recruiting and conscription districts would shift during this period as Austria lost or regained territories, but this basic division between ‘German’ and Hungarian regiments remained a constant.

Distinct from these ‘regulars’ were 17 regiments of Grenzer or ‘borderers’, recruited from the regions along the frontier with the Ottoman Empire. Originating with the semi-disciplined irregulars employed against Prussia during the Silesian Wars, the Grenzer were supposed to perform light infantry tasks, but they had been largely regularized in the intervening years and had thus lost their light infantry skills while doctrinally retaining these missions. The addition of a three-piece artillery detachment to each battalion—just like their line counterparts—further diminished their suitability for light infantry tasks. Austria also relied on volunteer Freikorps for light infantry requirements, but these were only raised at need, usually by a wealthy patron and known by his name (e.g., the ‘Le Loup Jägerkorps’ assembled in the Austrian Netherlands by Major Johann Le Loup). All of these were incorporated into fifteen separate light infantry battalions in 1798, but this experiment proved a failure and all were disbanded three years later. Finally, Franz, as King of Hungary, could call on the Hungarian ‘Noble Insurrection’, a feudal relic that could provide a local militia of both infantry and cavalry but one that could only be embodied in emergencies and was limited to operations inside Hungary.

A great social gulf separated the officers of these regiments from their men.⁶ This distance was often compounded by a linguistic chasm as German or French speaking officers could be assigned to command Czechs, Poles, Italians or some other imperial nationality; the language of command was German in so-called ‘German’ regiments, but, unlike the British Indian army, officers were not expected to learn the language of their men. Most of Austria’s infantry officers were drawn from the impoverished minor nobility, such as the sons of serving officers or civilian officials, but commoners could rise through the ranks in rare cases, sometimes to the general officer level. Most senior ranks, however, were almost exclusively filled by nobles, including foreigners from Germany, Italy or

6 David Hollins, *Austrian Grenadiers and Infantry 1788–1816* (London, 1998), 20.

elsewhere outside the empire (occasionally presenting awkward language problems). Few of these men, including generals, had any specialized military training or education; even basic literacy and numeracy were often lacking. Furthermore, unlike other countries, there was 'a marked lack of intellectual activity' among the Habsburg officer corps as scholar Gunter E. Rothenburg highlights. As a body, they were 'too devoted to routine' and inclined 'to look no further than orders issued by their superiors or to the appropriate army regulations'. Stale doctrine compounded the deficiencies of the officer corps, suppressing initiative and stressing strict adherence to the norms of linear tactics inherited from Frederick the Great's Prussia. 'In Austria, parade performances, intricate evolutions and meaningless form dominated' noted historian Moriz Edlen von Angeli, as the most recent approved regulation had been issued in 1769 under Maria Theresa in an attempt to emulate Prussian successes in the Silesian Wars.⁷

Structurally as well, the Austrian army was entrenched in the norms of the 18th century. With no permanent formations above the regimental level, forces in the field were constantly reorganized with regiments coming under different generals and seldom serving alongside familiar units. Up to 1809, it was not uncommon to find different battalions of a single regiment serving in entirely separate theatres of war. In 1796, for instance, many of the forces opposing General Napoleon Bonaparte's offensive in Italy were composed of the third battalions of regiments whose other elements were assigned to Germany. These arrangements not only precluded establishing unit cohesion beyond the confines of the regiment, but they also inhibited the infantry's cooperation with other arms and imposed enormous burdens on formation commanders as excruciatingly detailed orders had to be issued to each subordinate unit, sometimes down to battalion level. The antiquated artillery organization led to a further reduction to infantry effectiveness as units had to detach infantrymen as unskilled labourers called 'Handlanger' to serve the guns outside their regiments. Bound to a tactical system and organizational structure that were rapidly becoming outdated, the Austrian army of the early 1790s was courageous but cumbersome, slow, formal, unimaginative and unprepared for the challenges posed by the armies of the new French Republic. In the words of the official history: 'an unbiased

7 Rothenburg, *Adversaries*, 20–3; Angeli, 'Heere', 39, 88–9, 111.

judgement cannot escape the realization that the Austrian army of that time suffered from the predominance of form over spirit, from a stiff pedantry'.⁸

'War with the New Franks'

Although the Austrian armies and their various Coalition partners won some of the early encounters against what its officers regarded as their ragtag French opponents, they also lost many of their battles and they certainly did not sweep away the French as many had optimistically expected when the wars began. Some leading Habsburg commanders thus saw the need for *some* kind of change in their own conduct of war. The adaptations they advocated addressed all aspects of the army, but the focus was on the infantry as the most numerous and important element.

As early as 1795, the young Archduke Charles, 24 years old and fresh from campaigning in the Low Countries, composed an essay entitled 'On War with the New Franks'. After endowing it with its wonderful and telling title, Charles opened this piece by expressing his consternation that France's enemies, 'provided with everything', had been repeatedly defeated by armies composed of 'untrained, clumsy infantry' and 'almost no or very mediocre cavalry'. He blamed 'the mistakes committed by our generals' for this situation and lamented that Coalition troops were too dispersed, too defensive, too slow to exploit successes and incapable of fighting in difficult terrain. 'We must battle in open country, always fight in large formations, always attack', he asserted, because the French with 'the greater number and agility of their independent-minded soldiers have many advantages over us' in rough or wooded terrain. From his perspective, the French were 'everywhere victorious ... owing to the ignorance, the inactivity and the egoism that pervades our generals'.⁹ He offered similar ideas in a 1796 memorandum. Charles was particularly concerned with countering the French infantry's skill in light infantry tactics: skirmishing and fighting in open order as opposed to the rigid constraints of the linear system. Operating in loose swarms (a 'wild, dispersed mob' in the archduke's words), the French infantrymen 'discountenanced' their Austrian counterparts locked as they were in their

8 *Krieg gegen die Französische Revolution*, I, 258.

9 Charles, 'Über den Krieg mit den Neufranken', *Ausgewählte Schriften*, V, 5–15.

ponderous formations. Charles thus concluded that harassment by French light troops caused the unsettled Austrians to either retreat in disarray or to launch precipitous, disordered attacks that ended in failure. The new French tactics, however, implied an unprecedented degree of independence for junior leaders and even common soldiers. Uncomfortable with such a loss of control, Charles adjured his subordinates to commit only a minimum number of troops to these light infantry tasks and then only under tight oversight. 'All this shooting and skirmishing costs men and *decides nothing*', he wrote in 1796, adding later that 'Close order is the only means of controlling the will of the soldier'.¹⁰ Other senior officers were also wary of granting their men too much latitude on the battlefield. During the 1800 campaign in Italy, for example, Austrian orders of the day repeatedly enjoined commanders 'not to disperse as skirmishers, not to lose time with skirmishing', especially during an attack.¹¹ The bayonet employed by closed formations was the answer to tactical problems and senior commanders worried that their subordinates might follow the French model too closely.

Charles's memoranda and other writings from this period demonstrate that thoughtful officers saw an urgent need for change in the military establishment and, at the national level, Habsburg concerns about the challenge posed by the changes in warfare led to three so-called 'reform periods': 1798–1799, 1801–1805, and 1806–1809.¹² Interrupted on each occasion by war, none of these reform efforts had the time or coherence to bear full fruit. A review of the results, however, helps outline what the Habsburg military authorities were attempting to achieve. With the exception of the hasty changes introduced in 1805 (*see below*), Archduke Charles was at the center of these reforms and can serve as the lens through which to assess much of their evolution and implementation.

10 'Einige Observations-Punkte für die Herren Generale' in Moriz Edlen von Angeli, *Erzherzog Carl von Österreich als Feldherr und Heeresorganisator* (Vienna, 1896), I/1, 477–85; 'Von den Grundzügen des Infanterie-Exercitiiums', *Neue militärische Zeitschrift*, 1812, XI, 57.

11 Orders of the day for 1 April, 25 May and 17 July 1800 in Gallina, *Beiträge zur Geschichte des österreichischen Heerwesens* (Vienna, 1872), 142–5.

12 This is Rothenberg's formulation, Kurt Peball divides the era into two periods: 1792–1809 and 1810–1815, *see* 'Zum Kriegsbild der österreichischen Armee und seiner geschichtlichen Bedeutung in den Kriegen gegen die Französische Revolution und Napoleon in den Jahren von 1792 bis 1815', in Wolfgang von Grotte and Klaus-Jürgen Müller, *Napoleon I. und das Militärwesen seiner Zeit* (Freiburg, 1968), 137–8.

Writing after the wars, Charles observed that ‘eventually, France’s enemies saw themselves, owing to their own setbacks, required to imitate those things that had given the adversary the advantage’. As far as the infantry was concerned, the reforms that Charles and others believed were necessary fell into several broad categories. Key among these was tactics, both grand and minor, especially finding ways to cope with the shift from unitary to articulated armies and overcoming the ingrained norms of linear deployments grounded in the era of Maria Theresa.¹³ Particularly nettlesome for the Austrian Army were the issues of associated with light infantry tasks and open order or dispersed tactics such as skirmisher use and fighting in difficult or broken terrain (combat that occurred any place other than relatively open fields). For Charles, the French use of superior light infantry opened up terrain that had been considered impassable in earlier wars. Armies could no longer array themselves in tight, tidy formations while relying on wooded areas or rugged hills to protect their flanks as such places ‘no longer present an obstacle and may be traversed not only by individual soldiers but by entire corps’. The French advantages were such that Austria’s infantry was forced to emulate them to the degree possible. This was initially done in an ad hoc and inconsistent fashion at the local level without any impetus from the authorities in Vienna; it was only in 1806, eleven years after the archduke’s ‘War with the New Franks’ and fourteen years after the first engagements with the French, that Austrian authorities would officially sanction fighting in open order.¹⁴

A second area demanding drastic improvement was mobility. Encounters with the agile French demonstrated that Austrian armies moved too slowly on campaign and that the infantry was trammled by awkward formations in combat. In addition to freeing the entire army from the old magazine system of logistics at the operational level, increased mobility would require new infantry formations on the battlefield. This meant a dramatic shift away from the rigid

13 For the pre-Revolutionary Austrian Army, see Christopher Duffy, *The Army of Maria Theresa* (Doncaster, 1990) and *Instrument of War* (Chicago, 2000); *Krieg gegen die Französische Revolution*, I, 321–541.

14 Charles, ‘Krieg mit den Neufranken’ and ‘Das Kriegswesen in Folge der französischen Revolutionskriege’, *Ausgewählte Schriften*, V, 5–15, 346; *Grundsätze der höheren Kriegskunst und Beyspiele ihrer zweckmässigen Anwendung für die Generäle der Österreichischen Armee* (Vienna, 1808), 40–1.

lines (*Treffen*) of the linear ‘order of battle’ inherited from Frederick the Great and enshrined in the 1769 regulations.¹⁵ Additionally, Charles hoped he could exploit greater mobility by instilling a more aggressive outlook in the officer corps. ‘In this war generally, one must make it a principal tenet to always press the enemy as much as possible, to always be at his heels, and to attack him as soon as this can be done with advantage’. In this manner, the archduke hoped to force the French to fight in open terrain where he and others believed all the advantages would be on Austria’s side.¹⁶ Confronting the French in the Ligurian Alps in 1796, for instance, Feldzeugmeister Johann Peter Beaulieu was eager to ‘unite the imperial army in a position on the plains ... which will allow a more advantageous employment of the artillery and cavalry’. As Beaulieu withdrew from the mountains, however, his disgusted staff officer Joseph von Radetzky could only lament that ‘everyone who was attacked by the French army believed he had done his duty when he could gather his scattered troops from the various ravines, unite them with the main army and begin to retreat’.¹⁷

Revised tactics and a more offensive orientation in the army implied major changes in troop and officer quality. A third area of significant change was thus the treatment and training of the army’s personnel. As far as the common soldiers were concerned, Charles cut terms of service from a lifelong obligation to 10, 12 or 14 years for the infantry, cavalry and artillery respectively to make military service more appealing. Furthermore, the new infantry regulations that appeared in 1807 not only promulgated slightly modified tactics, they also called for more humane, honorable treatment of the troops. Charles also drastically reduced (in theory at least) the use of the vicious and ubiquitous corporal punishment that had been a salient feature of the infantry soldier’s existence. The Kaiser’s soldiers were to be ‘men of honor’ devoted to their regiments and their monarch, not automatons condemned for life. As stated in the service regulations ‘Numerous punishments recommend neither the regiment nor its commander’.¹⁸ That,

15 *Generals-Reglement* (Vienna, 1769).

16 Charles, ‘Krieg mit den Neufranken’, *Ausgewählte Schriften*, V, 7–8.

17 Ludwig von Cornaro, *Strategische Betrachtungen über den Feldzug in Italien 1796–1797*, (Vienna, 1873), 31; Josef von Radetzky, ‘Erinnerungen aus dem Leben des Feldmarschall Grafen Radetzky: Eine Selbstbiographie’, *Mittheilungen des K. K. Kriegs-Archivs*, 1887, I, 15.

18 *Dienst-Reglement für die kaiserliche königliche Infanterie* (Vienna, 1807), I, 1, 83; and

at least, was the intention. The degree to which these more humane measures were implemented is open to question. A Bavarian civilian visiting Austrian camps in 1809 noted that ‘corporals’ sticks are still one of the most important items of field equipment in the Austrian Army’ and the main army returned to harsh punishments to restore order after the early defeats that year.¹⁹

The officer corps presented numerous problems as it was factionalized, deficient in initiative, and ‘notably lacking in mental agility and a sense of professionalism’.²⁰ Charles hoped that education and training would correct these weaknesses over time to produce self-reliant officers capable of independent decision-making. In addition to military subjects, education had to address appallingly low levels of basic literacy and numeracy in many cases.²¹ The archduke’s approach to building better officers and men is evident in the spate of publications issued under his guidance between 1806 and 1813. Junior officers were to be edified by detailed tactical examples in the eight-part *Contributions to Practical Instruction in the Field*, while Charles’s *Fundamentals of the Higher Art of War* was to enhance the operational competence among Austria’s generals. Written for ‘the thinking officer’, these works were treated as regulations and widely distributed throughout the army.²² To promote the study of military history and generally broaden the outlook of the officer corps, Charles founded *The Austrian Military Journal*, as ‘the intellectual center’ of the army, a professional periodical that continues in print to this day.²³

Charles also endeavoured to modernize the army’s structure. For the infantry,

Dienst-Reglement für die kaiserliche königliche Infanterie (Vienna, 1808), II, 11.

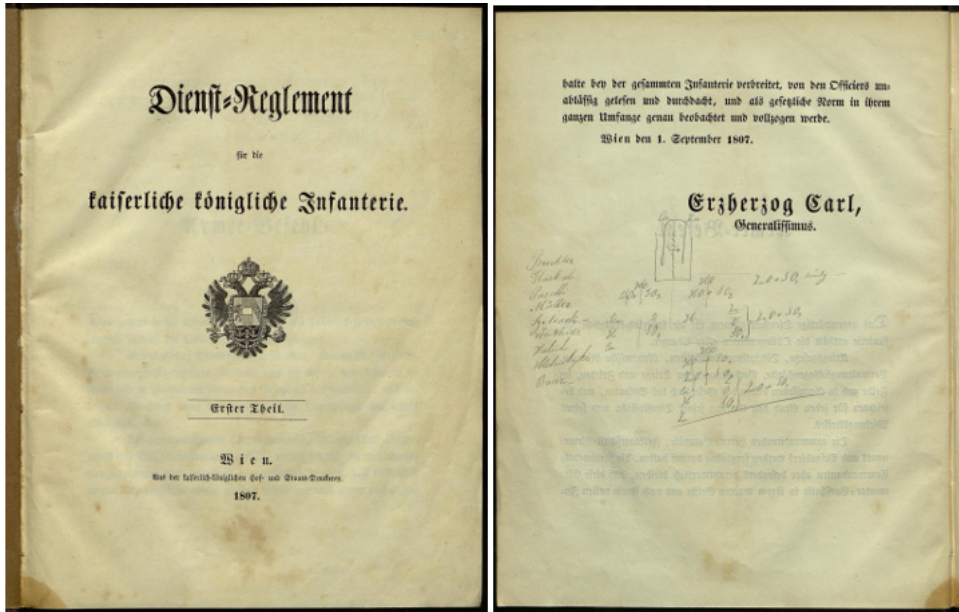
19 *Beobachtungen und historische Sammlung wichtiger Ereignisse aus dem Kriege zwischen Frankreich, dessen Verbündeten und Oesterreich im Jahr 1809*, (Weimar, 1809), 33–4; *Krieg 1809*, IV, 11–3.

20 Rothenberg, *Adversaries*, 117; Peball, ‘Kriegsbild’, 138. These were pre-existing conditions as Duffy notes in *Army of Maria Theresa*, 43.

21 Rothenberg, *Adversaries*, 71; Johann Christoph Allmayer-Beck and Erich Lessing, *Das Heer unter dem Doppeladler: Habsburgs Armeen 1718–1848* (Munich, 1981), 185.

22 *Beyträge zum praktischen Unterrichte im Felde für die Officiere der österreichischen Armee* (Vienna, 1807–13); *Grundsätze der höheren Kriegskunst für die Generale der österreichischen Armee*, (Vienna, 1808). Walter Wagner, *Von Austerlitz bis Königgrätz: österreichische Kampfaktik im Spiegel der Reglements 1805–1864* (Osnabrück, 1978), 6.

23 Karl Zitterhofer, *Streffleurs Militärische Zeitschrift 1808–1908* (Vienna, 1908), 8.



the most significant steps in this direction were the removal of the old battalion guns, the creation of a special unit to supply labourers for the artillery (thereby relieving the infantry of this responsibility), and the establishment of new echelons of command at the brigade, division and corps levels more or less along French lines. The latter measure, instituted just before the war of 1809, represented a dramatic change from the earlier norm of creating larger commands by combining individual regiments and support assets in an ad hoc manner at the beginning of every campaign or even every battle. Commanders in Italy had experimented with division-level organizations in 1799 to a limited extent, but the scheme was neither adopted by the army as a whole nor repeated in Italy.²⁴

It is important to note that these many changes did not all occur at the same time or even necessarily in the optimum sequence. Rather, the modernization of the army was sporadic, an evolutionary process over time without a coherent strategic concept. The entire process was interrupted in 1805 as described below, and some key measures, such as the corps structure, were quietly abandoned when Charles departed the scene after 1809.

24 Christopher Duffy, *Eagles over the Alps* (Chicago, 1999), 24–5.

Limits to Reform

Charles's efforts to adapt the infantry to the changing character of war were hobbled by the nature of the Habsburg state. The obstacles were numerous and serious. In the first place, Austria's financial situation was dire, leaving the army badly underfunded. The impecunious empire found itself unable to fund the maintenance of its standing army or purchase new equipment, leave alone institute massive reforms. With the state resorting to printing paper money, training was curtailed, horses were sold off and thousands of soldiers were furloughed or hired out for public service for months at a time to cut expenses. When it was mobilizing for war in 1805, for example, nearly half the army's men were on some sort of furlough.²⁵ As a consequence, when regiments were mobilized, they found that many of their men had forgotten whatever initial instruction they had received and were disconnected from their officers and fellow soldiers. These economy measures thus had a deleterious effect on unit training and cohesion. The army tried to mitigate the impact on its infantry establishment by integrating returning men and new conscripts with veterans, but the third battalions of most regiments—the last to be manned—ended up composed almost entirely of green troops at the start of any conflict. Summarizing the situation as Austria prepared to join the Coalition in the summer of 1813, Radetzky recalled that 'There was no money ... The army was in a badly neglected condition before the war, the companies numbered only sixty men [rather than the 198 authorized for a 'German' regiment]. The army at the time was in a state of total military innocence, the soldiers only peasants in disguise'.²⁶

Beyond its many financial woes, the monarchy was suffused with a conservative political and military culture that was deeply entrenched and highly resistant to change.²⁷ In the army, this pervasive conservatism manifested itself in the way in which infantry officers clung to the linear tactics and organizational structures of Maria Theresa's era as well as their view of the proper relationship between officers and men. Charles himself was an exemplar of caution, 'a conservative contending against soundly entrenched reactionaries' as Peter Paret

25 Rothenberg, *Adversaries*, 174; Alfred Krauss, 1805: *Der Feldzug von Ulm* (Vienna, 1912, 80–2.

26 Radetzky, 'Erinnerungen', 73.

27 Peball, 'Kriegsbild', 143.

describes him.²⁸ This anxious conservatism included a pervasive fear of rebellion, indeed of revolution. When Charles proposed reducing enlistment times to something less than a life ‘sentence’, for example, opponents to change worried that releasing relatively young men with military experience into the population would create cadres for armed uprisings against the state.²⁹ These apprehensions are captured in a remark attributed to Cabinet Minister Franz Graf Colloredo: ‘I can stuff the mouth of a victorious enemy with a province, but arming the people means overthrowing the throne’.³⁰

Fear of revolution combined with the monarchy’s multiple, diverse nationalities and its congeries of political institutions led many leaders in Vienna to worry that *any* major changes in the military might endanger the entire ‘Habsburg system’. This meant that the empire could not appeal to nationalism or the empowerment of the common soldiery. There could be no ‘reconfiguration’ of socio-political arrangements as Prussia indulged in after its catastrophe in 1806 and periodic references to the notion of an unspecified ‘Vaterland’ (fatherland) represented little more than an attempt to coopt this term ‘in the support and maintenance of the absolutist state’ as two twentieth century Austrian scholars note.³¹ Unwilling to enflame national sentiments and hesitant to grant much independence to individual soldiers, therefore, the Austrians could not truly replicate the free-wheeling tactics of the French. These anxieties and the close attachment to absolutist rule also meant that there would be no resort to *Volkskrieg* or ‘peoples war’. Advocates of such strategies were few and, all the patriotic hyperbole associated with the Landwehr and the Tyrolean resistance of 1809 notwithstanding (*see below*), the experiment that year was kept under close control and never repeated. Beyond the dread of insurrection, Charles regarded militias in general as unreliable, poor troops who would only divert scarce resources from the regular army. Furthermore, he feared that activating popular emotions would unleash dangerous, unpredictable passions and loose whatever bonds of soldierly discipline kept warfare within horrific, but relatively manageable confines.

28 Peter Paret, *Yorck and the Era of Prussian Reform, 1807–1815* (Princeton, 1966), 199.

29 Rothenberg, *Adversaries*, 72.

30 Allmayer-Beck/Lessing, 193.

31 Peball, ‘Kriegsbild’, 176; Allmayer-Beck/Lessing, 194.

Part of the conservative military culture was a general disdain for light infantry tasks and the units that performed them. As these missions had traditionally fallen to the ‘uncivilized’ Grenzer or to ad hoc volunteer battalions and Freikorps mercenaries, career officers tended to regard them with some scorn as secondary functions. Similarly, the various supposedly light formations were broadly seen as flighty, ill-disciplined and inclined to marauding, perhaps useful for outpost duties, but incapable of contributing to a standup fight and not worthy of the sternly trained regular. The army gradually accommodated itself to some light infantry tasks and skirmishing became a routine part of the line infantry’s repertoire, but the process was slow and implementation uneven.

An additional inhibition when responding to defeat was the political–military confusion that frequently prevailed in Vienna.³² Beyond the obvious absence of a soldier–king like Napoleon, authority was disaggregated in the empire, leaving enormous scope for intrigue, indecision and half-measures. Divisions between Charles and the various state chancellors and foreign ministers were especially debilitating as these produced disunity concerning war goals while civilian ignorance of military affairs resulted in the army being committed to offensive strategies for which it was neither ready nor suited (1805 and 1809 are prime examples).³³ Kaiser Franz was neither well-versed in military matters nor the type of leader to impose greater coherence on the state’s byzantine policy machinery. In the months leading up to the 1805 war, for instance, Charles expressed his frustration in a private letter: ‘they believe [in Vienna] that they only have to say “march!” and everything will go. The future makes me tremble’.³⁴

32 For 1809, see Manfred Rauchensteiner, *Kaiser Franz und Erzherzog Carl* (Vienna, 1972), 94.

33 Allmayer–Beck/Lessing, 188; Oskar Regele, *Der österreichische Hofkriegsrat 1556–1848* (Vienna, 1949), 24–8, 61–4; Eduard Wertheimer, “Erzherzog Carl as Präsident des Hofkriegsrates 1801–1805,” *Archiv für österreichische Geschichte*, 1885, LXVI, 280–314.

34 Quoted in Oskar Criste, *Erzherzog Carl von Österreich* (Vienna, 1912), II, 27.

Outcomes

As the foregoing suggests, Austria's efforts to adapt to the changes in warfare since 1792 by modernizing its infantry component were only partially successful. Charles made some progress in improving the army's administration, reducing the mountains of paperwork by one third in the course of a year, for example, and appointing the first-ever peacetime chief of the Quartermaster General Staff in 1801.³⁵ His laudable accomplishments in administration may have come at the cost of attention to other reform projects, however, and constant scheming by his court opponents to hedge his authority meant that he could only eliminate the most egregious bureaucratic abuses.³⁶ In any case, administrative improvements would have little impact on the battlefield.

Indeed, neither willing nor able to affect the fundamental alterations in the nature of the Habsburg state and its relationship to its subjects that would be required to truly emulate the French, Austria sought solutions to its military challenges in the tactical realm. Furthermore, it sought to do so with the minimum of financial, military and mental investment.³⁷ Nonetheless, the tactical changes that emerged had direct relevance to combat outcomes. In this arena, there were two major efforts to enhance the infantry. The first was a fiasco when Feldmarschall–Leutnant Karl Mack von Leiberich issued new instructions that completely changed the infantry's fundamental tactics and organization at the battalion level just as the army was marching to war in 1805. The entire army was thrown into confusion on the eve of confronting Napoleon's Grande Armée and, in the wake of the Ulm and Austerlitz disasters, Mack's organizational and tactical alterations were understandably discarded. Charles oversaw the drafting of new infantry regulations that were issued in 1807, the first fully approved set since 1769. These granted the infantry somewhat greater flexibility, abandoning some of the most excessive ceremonial movements and stressing independence, open order tactics and operations in the field.³⁸ The improvements, however, were marginal and, in the assessment of the official history of the 1809 war,

35 Hugo Kerchenawe, 'Das Machtaufgebot Österreichs im Jahre 1809', *Österreichische militärische Zeitschrift*, 1909, 4, 583; Rothenberg, *Adversaries*, 69–71.

36 Radetzky, 'Erinnerungen', 63.

37 Allmayer–Beck/Lessing, 180–1.

38 Wagner, *Austerlitz bis Königgrätz*, 8–18.

the new drill was ‘more complicated...it had incorporated all the refinements of Frederickian drill’. Indeed, the army’s ability to coordinate attacks above the regimental level may have actually declined.³⁹

These new regulations of 1807 and those issued for the Grenzer the following year highlighted the employment of columns for movement but dictated the line, ‘the true battle formation for the infantry’ in Charles’s words, as the proper formation for the attack. They also included two relatively new innovations for the Habsburg infantry. For one, they introduced the ‘mass’ as a tactical formation that soon became the army’s ‘favourite battle formation’ in the words of a volunteer Prussian officer.⁴⁰ Designed as a rapidly formed infantry defence against cavalry to supplement the standard square, the ‘mass’ proved effective at Aspern-Essling in 1809, but it was very vulnerable to artillery and its utility has often been overrated. Additionally, a considerable section was devoted to skirmishing and open order combat noting that the individual soldier was ‘often left on his own and requires more than blind obedience’ in this style of fighting. At the same time, the instructions emphasized that skirmishing ‘could never deliver the decisive blow’ and the entire text was saturated with caution and control while stressing that only limited numbers of men should be employed in open order. Charles underlined the same themes in ‘On Skirmishing’, the third volume of his *Contributions to Practical Instruction in the Field*.⁴¹

Despite this new emphasis on open order tactics, the Austrians never matched the French in the employment of light troops.⁴² The army could and did make use of skirmishers as directed by the 1807 regulations and even grenadiers are recorded as skirmishing *in extremis* in 1809.⁴³ In general, however, these new instructions were largely a compromise attempt to adapt the old style of warfare to the new; skirmishing and other open order practices remained limited and im-

39 *Krieg 1809*, I, 102–11.

40 Charles, ‘Von der Infanterie’, *Ausgewählte Schriften* V, 111; Georg von Valentini, *Versuch einer Geschichte des Feldzugs von 1809 an der Donau* (Berlin, 1818), 277–83.

41 *Exercier Reglement für die kaiserlich königlich Gränz-Infanterie* (Vienna, 1808); ‘Von dem Tirailliren’, *Beyträge*, III (Vienna, 1807).

42 Peball argues that the Austrian did not pull even with the French overall until after the Russian debacle in 1812 (‘Kriegsbild’, 178).

43 John H. Gill, *The Battle of Znam* (London, 2020), 190–3.

plementation came slowly.⁴⁴ As one example, although nine battalions of *Jägers* were organized in 1808 specifically for light infantry missions, these new infantry formations had no manual to instruct them in their duties and each battalion had to develop its own tactics. Furthermore, there were too few of them and senior commanders, unfamiliar with their potential, tended to squander them in battle.⁴⁵ Austrian officers clung to the illusion that the famous Grenzer had 'the disposition and characteristics of a skirmisher by nature', but these troops had become little different from the line in the years since the wars with Prussia.⁴⁶ Likewise, with very few exceptions, the volunteer units raised just before the wars of 1805 and 1809 proved incapable of fulfilling the light infantry role they were supposed to perform. As for the line infantry, Feldmarschall-Leutnant Franz von Rosenberg expressed a common complaint in reporting that the Habsburg infantry in 1809 was 'too unready and too helpless' to fight in open order or in rough terrain: 'it is too accustomed to closed ranks and the mechanical word of command'. Charles himself bitterly, and perhaps unfairly, castigated the infantry at Wagram, blaming the foot soldiers for the loss of the battle.⁴⁷ The 1807 regulations thus improved combat effectiveness, but prevailing inertia meant that caution and fear of losing control remained prevalent throughout the era. At the opening of the 1813 campaigns, for instance, Feldmarschall Carl zu Schwarzenberg, enjoined his subordinates to employ infantry columns, masses, and skirmishers in close coordination with artillery on the battlefield. Unlike the earlier references to masses and columns, in fact, he specifically highlighted their utility in the attack behind a 'double line of skirmishers'.⁴⁸ Skirmishing

44 Joseph von Gallina, 'Reglements und Instruktionen für die Ausbildung der Truppe und ihrer Führer', *Österreichische militärische Zeitschrift*, 1881, IV, 180. Elsewhere, Gallina argues that as early as 1799 commanders 'had learned to keep enemy skirmisher swarms away from the main body of the troops' (*Beiträge*, 127), but Rothenberg rejects this assertion (*Adversaries*, 54).

45 Karl von Kandelsdorfer, *Geschichte des k. u. k. Feld-Jäger-Bataillons Nr. 3* (Vienna, 1899), I, 36.

46 *Exercier Regiment für die kaiserlich königlich Gränz-Infanterie*, 116; Gunther E. Rothenberg, *The Military Border in Croatia: 1740–1881* (Chicago, 1966), 93–4.

47 *Krieg 1809*, I, 383–4; Charles, 'An den Herrn Corps Commandanten', 7 July 1809, Kriegssarchiv, Alte Feldakten, Operativen Akten, Karton 1461.

48 'Eine bei Eröffnung des Krieges 1813 vom Feldmarschall Carl Fürst zu Schwarzenberg hinausgegebene Instruktion', *Österreichische militärische Zeitschrift*, 1864, II, 245–7. See also Gunther E. Rothenberg, 'The Habsburg Army in the Napoleonic Wars', *Military*

in general, however, remained ‘very restricted’ because, in Radetzky’s words, ‘neither the Russians nor we have mastered the *manière de tirailler*’.⁴⁹

The organizational changes Charles ordered in 1809 produced better results. Though introduced far too late to be understood by skeptical senior officers who preferred to cleave to the old methods⁵⁰ and often abused by Charles himself, the corps system may have been a contributing factor to the army retaining its integrity after the defeats at Regensburg and Wagram that year.⁵¹ As mentioned earlier, however, the corps idea fell into disrepute after 1809, and the army entered the 1813 campaigns with no echelon higher than division and an overall approach reminiscent of the wars against Frederick the Great. The defeat at Dresden in late August led to a reorganization after the Austrians found themselves still, in the words of the official history, ‘biased in favor of the lessons of obsolete tactics’.⁵² The new formations created in September strongly resembled French corps, but that term was so tainted by its association with the 1809 defeat that they were officially designated *Armee-Abteilungen* (‘army detachments’) to avoid the word ‘corps’.⁵³

In addition to the corps structure, the war of 1809 also saw the introduction of another new form of infantry, the Landwehr, a militia created in 1808 to relieve the regular infantry of rear area and garrison duties. The Landwehr’s eager advocates also hoped that these part-time soldiers would embody a new national spirit, but the reality did not match their aspirations. Established locally across disparate regions stretching from Bohemia through German-speaking Austria as far south as Trieste (the Poles of Austrian Galicia were considered too unreliable), the Landwehr battalions hardly represented a unified ‘nation’ and were seldom animated by the patriotic sentiments their enthusiasts had anticipated. Poorly trained, poorly equipped and in most cases poorly led, they proved a grave disappointment. Charles, who has no use for militias and popular emo-

Affairs, XXXVII/1, February 1973, 4.

49 Quoted in Rothenberg, *Adversaries*, 184.

50 *Krieg 1809*, I, 109.

51 Robert M. Epstein, *Napoleon’s Last Victory and the Emergence of Modern War* (Lawrence, KS, 1994), 5–6.

52 *Befreiungskrieg 1813 und 1814* (Vienna, 1913), III, 313.

53 *Befreiungskrieg 1813 und 1814*, V, 2–3.

tions in the first place, felt that they consumed resources that would have been better expended on the regular army. A handful of the battalions performed well, but some mutinied, many disintegrated on their first exposure to combat (or before) and others never achieved formation. Although the term 'Landwehr' was retained, this experiment in a 'national' force was not repeated; the Landwehr formed for 1813–1814 was an entirely new creation with none of the national-patriotic connotations or aspirations of their 1809 predecessors. Instead, the new battalions were directly attached to and associated with line regiments for the duration of the wars as adjuncts to the dynasty's military machine.⁵⁴

The many volunteer battalions formed for the 1809 war were also problematic. The six provided by the city of Vienna gained renown but most were fragile, prone to break under pressure and none were suited for their intended light infantry roles, especially when facing French veterans. Additionally, they not only diverted resources from the regular army, they also undermined the Landwehr by drawing on its nascent battalions for many of their officers, NCOs and men. As with most of the Freikorps and other volunteer units formed in earlier conflicts, the volunteers of 1809 thus proved a disappointment.

Hungary, as a separate Habsburg crown land, was not included in the Landwehr scheme and did not contribute volunteer battalions. Instead, Kaiser Franz as the King of Hungary could call up the kingdom's 'Noble Insurrection' in the face of imminent invasion. Based on statutes dating back to the 1500s, this Hungarian militia included both infantry and cavalry, but it was, if anything, even less prepared than the Landwehr when it was embodied in April 1809. Everything was in short supply: weapons, equipment, troops, qualified officers and, most of all, training and experience. Almost none of the men had any military background whatsoever and the Habsburg hierarchy refused to allow line officers or non-commissioned officers to be seconded as cadres. Nor had the Insurrection troops ever had any opportunity to exercise together as battalions or regiments. Many cavalymen appeared at their mustering places in civilian clothes armed with their personal sabres. After reviewing the problems with the cavalry, one officer thus remarked that 'Things were far worse with the infantry ... only a small portion organised into companies and battalions; unarmed; the

⁵⁴ Allmayer-Beck/Lessing, 228–9.

weapons of those who were armed mostly useless; lacking any knowledge of military duties and drill; most with no sense of subordination; almost no experienced officers'.⁵⁵ Thrown into combat only two months after being called into existence, it is small wonder that the Insurrection units largely collapsed at the Battle of Raab on 14 June 1809. As there was no threat to Hungary in the subsequent wars, the Insurrection was not called up after 1809.

Beyond the challenges of forming an effective army from this disparate admixture of regulars, Landwehr, volunteers and Insurrection, problems with Habsburg military culture persisted throughout the era, limiting the effectiveness of Austria's foot soldiers. Summarizing his experiences in an anonymous 1810 memorandum, for example, a frustrated officer compared the Habsburg officer corps with its French opponents: 'One of the most striking differences between the French and our generals that I have had the opportunity to observe is that the Austrian general is completely satisfied and at ease if he has followed his orders exactly, can prove this before a court-martial, if necessary by sufficient testimony, and thus demonstrates with proof that no responsibility falls on him, regardless of success or failure' [of the mission]. 'In contrast', he ruefully observed, 'the Frenchman is responsible to his emperor for victory'.⁵⁶

Concluding Observations

A brief survey such as this cannot address all the details of how Austria's infantry adapted to the changing nature of war over a period of nearly a quarter of a century. In limning the broad contours of the Habsburg state's efforts to adapt to the new military realities, however, several useful points emerge. In the first place, the army recognized the need to adapt and repeatedly endeavored to introduce reforms, albeit limited, that would enhance its chances against its French opponents (not to mention its ability to attract allies). Second, these spurts towards reform, although sincere, were circumscribed by the inherent nature of the state: the deeply conservative political and military cultures, tena-

55 Major Anton Demuth, 'Journal des G. Q. M. Stabes über die Ereignisse der könig. ungarischen Insurrection', 1 May 1810, Kriegsarchiv Alte Feldakten, Operativen Akten, Karton 1388.

56 'Die Armee Napoleon I. im Jahre 1809', *Mittheilungen des K. K. Kriegsarchivs*, 1881, 389.



Georg Decker (1819-1894) after Anton Eisle (1801-1871), Pastel portrait (after 1847) of Charles, Duke of Teschen, Archduke of Austria, Collection Albertina (from Oskar Criste, *Erzherzog Karl und die Armee*, Wien, C.W. Stern, 1906, p. 4: Wikimedia Commons).

cious adherence to outdated tactical concepts, ethnic diversity, disarray between military and political authorities and desperately weak finances. Third, the army was not incompetent or numb to the need to change. The Habsburg infantry was central to the many victories won over the course of the French Revolutionary and Napoleonic Wars, but Austria's foot soldiers were stolid, cautious and resilient rather than bold, rapid, enterprising or imaginative.⁵⁷ The infantry in particular seemed mired in the past as the frustrated Feldmarschall-Leutnant Joseph von Gallina observed on noting that the army in its 1827 training camp was still deployed according to the precepts of linear tactics: 'Twelve campaigns in which the Austrian army participated and that covered a period of 24 years were not enough to make clear the advantages of the Napoleonic army organization'. Similar attachment to the past was evident as late as 1859.⁵⁸ Finally, the army's top leaders were acutely conscious of the army, the infantry above all, as the ultimate guarantor of the dynasty. As Christopher Duffy observes, the central strategic problem for the monarchy was 'how to implement an offensive grand strategy without hazarding the army'.⁵⁹ This awareness drastically reduced their readiness to take any risk in composition, organization, training or operations that might expose the army to destruction and the monarchy to dissolution.

These factors made the Austrian Army a formidable foe when on the defensive and when operating in relatively open ground such as that available on the vast plains across the Danube from Vienna. It was, however, at best a clumsy offensive instrument and was at a decided disadvantage if placed in rough terrain or in fast-moving, unexpected situations. These fundamental characteristics were especially problematic when the civilian leadership—often quite ignorant of military realities—opted for policies that demanded rapid, offensive operations to succeed. The wars of 1805 and 1809 are but two examples of the army being assigned tasks for which it was poorly suited. It is to Metternich's credit that his integration of the army into a more constrained political-military strategy and his willingness to compromise as part of an international coalition

57 Lee Eysturlid calls it 'a solid if somewhat obsolescent force' in 'The Austrian Army', Chapter 5 of Frederick C. Schneid, ed, *European Armies of the French Revolution 1789–1802* (Norman, 2015), 76.

58 Gallina, 'Reglements und Instruktionen', 24–5, 186–7; Frederick C. Schneid, *The French-Piedmontese Campaign of 1859*, (Rome, 2014).

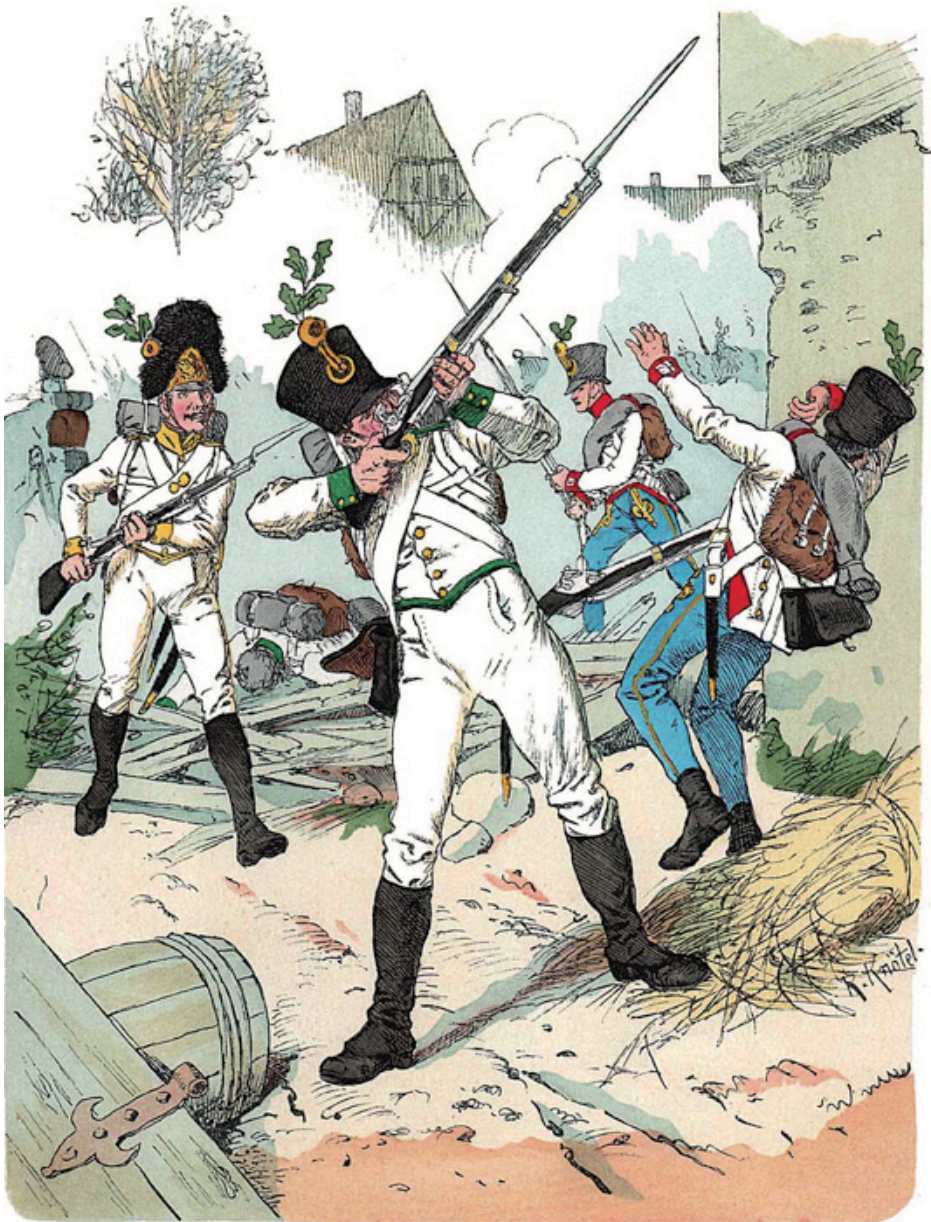
59 Christopher Duffy, *By Force of Arms* (Chicago, 2008), 396.

created circumstances more aligned with the army's strengths and less likely to highlight its vulnerabilities.⁶⁰ The army could thus conclude the Revolutionary and Napoleonic eras as part of a victorious alliance despite its few concessions to the new style of revolutionary warfare'.⁶¹ And Vienna, fearful of domestic socio-political fissures that more fundamental military change would have required, chose, as Rothenberg observes, 'to retain a military establishment closely resembling that of the pre-revolutionary period' after 1815.⁶² The army thus remained a Habsburg dynastic force, in some ways the supra-national core of the monarchy, throughout the reign of Kaiser Franz and on into that of Franz Joseph.

60 Allmayer-Beck/Lessing, 233.

61 Gunter E. Rothenberg, *The Army of Francis Joseph* (West Lafayette, 1976), 6.

62 *Ibid.*, 9.



Richard Knötel (1857-1914), Austrian infantry in 1813 uniforms: a 'German' grenadier on the left, a line infantryman of a 'German' regiment in the centre and soldiers of a Hungarian regiment on the right (Markus Stein, Napoleon On-Line).

Broken Squares and Tactical Quandaries

The British Infantry in the Age
of C. E. Callwell and G. F. R. Henderson

by MARCO MOSTARDA

So 'ere's *to* you, Fuzzy-Wuzzy, at your 'ome in the Soudan;
You're a pore benighted 'eathen but a first-class fightin' man;
An' 'ere's *to* you, Fuzzy-Wuzzy, with your 'ayrick 'ead of 'air
You big black boundin' beggar – for you broke a British square!¹

Introduction

According to C. E. Callwell's famous *dictum*, small wars were «in the main campaigns against nature» rather than against hostile armies:² they entailed operations conducted in barren theatres of war lacking in supplies and infrastructures and therefore waged against formidable logistic constraints. The 1884-85 Nile Expedition is a prime example of this, with Callwell himself including in his *Small Wars* a detailed analysis of the route followed by Lord Garnet Wolseley's force and its many difficulties from the point of view of supply.³ The campaign, though, was much more than this: it was a race «against time, because it was undertaken to relieve a beleaguered city»;⁴ and, disproving the general complacency showed by Callwell and many other Victorian commanders

1 R. KIPLING, in W.E. Henley's weekly *Scots Observer* (later to become the *National Observer*) on 15th March 1890. "Fuzzy-Wuzzy" was the term used by the British soldiers for the Sudanese Beja warriors of the Mahdist War. The term relates to the elaborate *tiffa* hair style favoured by the Hadendoa tribe, a subdivision of the Beja people.

2 C. E. CALLWELL, *Small Wars. Their Principles and Practice. Third Edition*, London, His Majesty's Stationery Office, 1906, pp. 44, 57.

3 *Ibid.*, pp. 68-70.

4 *Ibid.*, p. 68.

towards native foes,⁵ it had to face a formidable enemy such as the *Mahdiyya*.

The Desert Column, launched across the Bayuda Desert in a last-ditch attempt to open up communications with Khartoum, was compelled to fight two pitched battles in three days: at the Abu Klea wells and Abu Kru, near Gubat (17th and 19th January 1885). These were two of the fiercest infantry actions in the British campaigns of colonial conquest of the XIX century; and on the first battlefield the unthinkable happened. «If any man had said four years ago», wrote Sir William Butler in 1887, «that it was possible for naked Arabs armed with swords and spears to break into squares of infantry armed with the most effective breech-loading rifle, such a man would have been laughed to scorn».⁶

Yet, at Abu Klea a British square was broken by a “primitive” enemy for the second time in ten months: something similar had already happened on 13th March 1884 at Tamai, during the operations for securing the port of Suakin against the Mahdist forces led by Osman Digna. The reasons why that happened help to disprove some commonly held misconceptions on the facile nature of colonial warfare, and the subsequent debate in the British military circles showed that victory in small wars had never been just a matter of crude tactics made possible by owning an unquestioned technological edge.

A leap in the dark

Since the conclusion of the so-called «battle of the routes»⁷ and the ruling out of the Suakin-Berber route on account of Berber «being in the hands on the enemy», the line of advance provided by the Nile Valley had always been intended

5 In his diary entry of 25th December Wolseley wrote that «we are too prone to endow the savage with a power of collecting information and with the sagacity to understand its importance that as a broad general rule is entirely absent in all barbarous & uneducated people»; see Adrian PRESTON (Ed.), *In Relief of Gordon. Lord Wolseley's Campaign Journal of the Khartoum Relief Expedition, 1884-1885*, London, Hutchinson, 1967, p. 99.

6 W. F. BUTLER, *The Campaign of the Cataracts. Being a Personal Narrative of the Great Nile Expedition of 1884-85*, London, Sampson Low, Marston, Searle, & Rivington, 1887, pp. 81-82.

7 Mike SNOOK, *Beyond the Reach of Empire. Wolseley's Failed Campaign to Save Gordon and Khartoum*, London, Frontline Books, 2013, pp. 90-94. During the Nile Expedition Colonel Butler was in charge of the whalers' scheme.

as the only route of the expedition.⁸ Yet, the organisation of a «mounted force capable of moving across the desert to Khartoum», had the situation required to urgently succour Gordon, had been envisaged since the beginning.⁹ Therefore, on 26th October a general order was issued, establishing a Camel Corps into four regiments: the Heavy Camel Regiment, the Light Camel Regiment, the Guards Camel Regiment and the Mounted Infantry Camel Regiment.¹⁰ As such, the Corps was no stopgap solution, rather an integral part of Wolseley's general plan: as Sir Ian Hamilton – the future commander of the MEF at Gallipoli and a veteran of the Nile Expedition himself – noted nearly seventy years later, «the Desert Column was a brain cell freak of his. No one but Wolseley, in the days of railways, as leading soldier of the greatest industrial nation of the nineteenth century, could [...] re-embark upon the methods of the ninth century».¹¹

However disingenuous Hamilton's remarks may have been, the fact remains that the Camel Corps bore the hallmarks of the organisational arrangements Wolseley favoured: for instance, the formation of *ad hoc* units made of hand-picked troops from other regiments.¹² As such, the novel unit was to be composed of a mix of detachments taken from a congeries of infantry and cavalry regiments and battalions posted at home¹³ and in Egypt. The men of the Light Camel Regiment were to be taken from no less than 9 different Hussars regiments.¹⁴ As we shall see, the decision of combining infantry and cavalry soldiers proved infelicitous and represented a liability for the battlefield performance of the unit. At any rate, it was made clear by its commander, Brigadier-General Sir Herbert Stewart, that the Camel Corps «should act purely as infantry» as soon as the enemy was engaged.¹⁵ The camels provided were intended as little more

8 H. E. COLVILE, *History of the Sudan Campaign. Compiled in the Intelligence Division of the War Office*, London, Her Majesty's Stationery Office, 1889, vol. 1, pp. 58-59.

9 *Ibid.*, pp. 107-108.

10 *Ibid.*, p. 109.

11 Ian HAMILTON, *Listening for the Drums*, London, Faber and Faber, 1944, pp. 176-177.

12 Mike SNOOK, *Into the Jaws of Death. British Military Blunders, 1879-1900*, London, Frontline Books, pp. 260-261; *Id.*, *Beyond the Reach*, p. 104.

13 See the despatch sent by Lord Wolseley to the Secretary of State for War on 11th September 1884, reproduced in full in COLVILE, *Official History*, vol. 1, pp. 53-54.

14 For the composition of the Camel Corps, see Count GLEICHEN, *With the Camel Corps up the Nile*, London, Chapman & Hall, 1888, pp. 309-313.

15 COLVILE, *Official History*, vol. 1, p. 102.

than baggage animals, designed to ensure the mobility of the column in a desert setting. The instructions for the employment of the Corps issued by Major-General Sir Redvers Buller, Chief of Staff of the Expedition, further specified that infantrymen were to be kept «in close formation that will give him [the enemy] no opening», while «the attack formation for infantry of our Drill Book is not intended to be employed against an enemy like the Arabs of the Sudan».¹⁶ In other words, the kind of open order formations designed to counter the increasing lethality of the modern battlefield should have been discarded in favour of the old and well-proven ones in close order.

Furthermore, whether there was «ample time to make preparations previous to an advance», or in case of «being suddenly attacked», deploying the troops into one or more rallying squares, two deep» was recommended, with «two-deep squares at the angles of the square oblong formed from the camels» as the specifically prescribed formation in case of a sudden enemy rush.¹⁷ Arguably because of the lingering danger for two squares to fire into each other – a circumstance taken into consideration by the instructions¹⁸ and something which had already happened ten months earlier at the battle of Tamai¹⁹ – on the field of Abu Klea the British would then adopt a single square formation, protecting the baggage animals in the centre. The limited number of men involved in the battle might also have accounted for such a decision. One assumption of this set of instructions was to be disproven, though: that «the open formation of the Drill Book» was not necessary because the Arabs were «indifferently armed and bad shots».²⁰

Although the *Official History* states that the Desert Column scheme was primed by Wolseley before leaving Dongola for Korti (13th December 1884),²¹ Mike Snook rightfully observed²² that the first evidence of his intent is provided

16 “Notes for the Use of Camel Regiments by the General Commanding in Chief in Egypt, 27th October 1884”, in COLVILLE, *Official History*, vol. 1, p. 240.

17 *Ibid.*, p. 241-242.

18 *Ibid.*, p. 241

19 Brian ROBSON, *Fuzzy Wuzzy. The Campaigns in Eastern Sudan, 1884-85*, Tunbridge Wells, Spellmount, 1993, p. 61.

20 COLVILLE, *Official History*, vol. 1, p. 240.

21 *Ibid.*, vol. 1, p. 133.

22 SNOOK, *Beyond the Reach*, pp. 130-131.



Fig. 1. Nile between Khartoum and Dongola
(*Special Map of the Sudan*, Edinburgh, J. G. Bartholomew, 1896)

by the 15th December entry of his diary: «If I can only reach Shendy safely with 1.500 men on camels & with 30 days of provisions for them, I think I could tickle up the Mahdi».²³ The rather sanitised narrative provided by the *Official History* suggests that the decision to proceed with the desert dash was made on the basis of the information coming from Khartoum where the supplies were dwindling.²⁴ The point is, though, that the whole campaign plan was starting to

²³ PRESTON, *Relief of Gordon*, p. 88.

²⁴ COLVILLE, *Official History*, vol. 1, p. 133.

fall apart. Forced to contend with the Great Bent of the Nile, stretching for 400 miles between Korti and Shendi; cautioned about the impassable nature of the rapids beyond Korti, known as the Fourth Cataract;²⁵ anxious about the increasing delays accumulated by the expedition, Wolseley finally opted for splitting up his force. The Camel Corps was to cut through the Great Bent at its base with a quick march across the Bayuda Desert, linking up with Gordon's steamers at Metemmeh, while «the remainder of the force was to follow the river in whalers as originally intended».²⁶

Sensing the hazardous nature of the enterprise, in the 26th December entry of his diary Wolseley described the incipient desert march as «a great leap in the dark».²⁷ Two days later, on 29th, Stewart issued orders for his force «to march on the following day».²⁸ Alongside the Camel Corps, the forces under his command included one squadron of the 19th Hussars, the First Division of the Naval Brigade, half a battery of the Royal Artillery, a detachment of the Royal Engineers, 400 men of the Royal Sussex Regiment, one company of the Essex Regiment, the Bearer Company, the Movable Field Hospital and the Transport Details, for a total of about 120 officers and 1.900 men.²⁹ The vital Jakdul wells, roughly halfway between Korti and Metemmeh, were seized on 2nd January and Stewart immediately set out for the return journey to Korti: due to the dearth of camels, further compounded by the defection of Chief Saleh of the Kababish Tribe who was supposed to provide the column with more baggage animals, it was already evident before its departure that «it was not possible to move the whole of the force intended for the capture of Metemmeh across the desert in a body».³⁰ Therefore, the available camels had to be used to shuttle between Korti and Jakdul in order to concentrate enough supplies for the final advance on Metemmeh. It is quite apparent that this was a crucial flaw for an enterprise whose success rested on the time factor.

25 BUTLER, *Campaign of the Cataracts*, p. 234.

26 COLVILE, *Official History*, vol. 1, p. 133.

27 PRESTON, *Relief of Gordon*, p. 100.

28 COLVILE, *Official History*, vol. 2, p. 2.

29 Charles W. WILSON, *From Korti to Khartum. A Journal of the Desert March from Korti to Gubat, and of the Ascent of the Nile in General Gordon's Steamers*, Second Edition, London & Edinburgh, William Blackwood and Sons, 1885, pp. xxii-xxiii.

30 COLVILE, *Official History*, vol. 2, pp. 1-2.

In hindsight, it is apparent that, while taken aback by the capture of Jakdul, the Mahdists were quick to concentrate their forces with the aim of crushing «the British column at the end of its desert march».³¹ At the time of its execution, however, the march was undertaken relatively in the dark as for the position and intent of the enemy forces:³² the size of the contingent at Metemmeh, noted Wilson, was «variously reported» to be between 300 and 3.000 men.³³ In his diary W. W. C. Verner put the figure at «some two thousand [...] one account says twelve hundred»; however, he remarked on a sarcastic note, «I believe we shall find the “1.200 men” at Metemmeh a tough job».³⁴

On 14th January, after establishing a depôt and leaving a garrison of 150 men of the Royal Sussex Regiment at the wells, the Desert Column – in all, about 1.800 combatants and 1.118 camels – finally left Jakdul for Metemmeh.³⁵ Two days later, «massed together in close formation»,³⁶ the column descended into the Abu Klea valley and, while ascending the pass to the nearby wells, a reconnaissance party provided by the Hussars «found the enemy in force between us and the wells».³⁷ Actually, it was a force «very much stronger than anybody had expected», not the «mere assemblage of river tribes from Metemmeh etc. as

31 WILSON, *Korti to Khartum*, p. xxv. During the Nile Expedition Colonel Wilson was appointed D.A.G. as head of the Intelligence Department and later attached to the Desert Column. With Stewart mortally wounded at Abu Kru, he took command of the column.

32 As noted by Edward M. Spears in *Id.*, *The Late Victorian Army, 1868-1902*, Manchester and New York, Manchester University Press, 1992, pp. 285-286, «intelligence gathering and analysis were especially important» in small wars but, «although the War Office Intelligence Branch (and later Division) expanded its range of activities during the period, it was always understaffed and underfunded». As a consequence, British commanders on the spot had to rely upon local informants and reconnaissance parties, often lacking accurate information about the terrain and the whereabouts of the enemy.

33 WILSON, *Korti to Khartum*, p. xxv; COLVILE, *Official History*, vol. 2, p. 12 states that the 3.000 men were armed «with Remingtons and fowling pieces». This with regard to Buller's remark on the Arabs as «indifferently armed».

34 James WHITAKER (Ed.), *The Military Diary of Colonel W. W. C. Verner: Being an Account of the Nile Expeditions of 1885 and 1898*, Leeds, Peregrine Books, 2003, pp. 27, 35. The then Captain Verner served in the Intelligence Department under Sir Charles Wilson and was likewise attached to the Desert Column.

35 COLVILE, *Official History*, vol. 2, pp. 13-14.

36 *Ibid.*, vol. 2, p. 15.

37 WILSON, *Korti to Khartum*, p. 19.

might have been reasonably expected».³⁸ After the enemy position was reconnoitred by Stewart and Wilson themselves, orders were given to form a zareba³⁹ because, since it was well into afternoon, Stewart was «determined not to advance until the [following] morning».⁴⁰ By the time a spot for the bivouac was selected «near the foot of some rising ground [...] near the head of the wady [sic] leading to the wells»,⁴¹ the enemy riflemen were already creeping round the hills to the right of the British position, opening an initially ineffective fire which was kept up the whole night through.⁴²

Wilson maintained that the Mahdists got the range pretty well already before dark, hitting a man of the Hussars and several horses and camels;⁴³ in any case, the fire increased in accuracy by the morning, with «the enemy's main body» showing up «in two lines, the second very strong and reckoned at about 5.000 men».⁴⁴ Whereas the British had understandably hoped that the Mahdists would come on and attack their strong defensive position, «the enemy's tactics were evidently to make us leave our zeriba and fight in the open».⁴⁵ Stewart obliged, in the belief that the enemy wanted to keep harassing him from a distance and that to compel them to engage battle was therefore the best course of action.⁴⁶ After leaving the sick and most of the baggage in the zareba, under the protection of a guard of the Royal Sussex, the square was formed: it comprised approximately 1.350 men, of whom 1.186 were deployed two-rank deep along the four faces of the formation.⁴⁷ In penning one of the most famous first-hand accounts of the story of the Desert Column, Lord Gleichen curiously put the figure of the camels enclosed in the square at 30, while the diagram of the *Offi-*

38 WHITAKER, *Verner Diary*, p. 38.

39 A zareba is an enclosure made of thorny bushes or stakes, protecting a campsite or village in north-east Africa.

40 WILSON, *Korti to Khartum*, pp. 20-21.

41 COLVILLE, *Official History*, vol. 2, p. 15.

42 WHITAKER, *Verner Diary*, p. 39.

43 WILSON, *Korti to Khartum*, p. 21.

44 WHITAKER, *Verner Diary*, p. 40.

45 *Ibid.*, p. 40.

46 COLVILLE, *Official History*, vol. 2, p. 16; WILSON, *Korti to Khartum*, p. 25.

47 SNOOK, *Beyond the Reach*, pp. 249-250.

cial History shows a more accurate estimate of 150 animals:⁴⁸ it is a significant detail, given the effect that the mass of the camels would have in disrupting the formation during the march towards the enemy position.

How was the square broken?

The square started moving very slowly forward, under «a smart fire» coming mainly from the front and the right: actually, the Mahdist fire was so effective – «a good many men were hit», noted Verner – that Stewart was compelled to send part of the Mounted Infantry and a detachment of the Scots Guard to act as skirmishers in the attempt to counter it.⁴⁹ The selected line of advance, at first down the centre of the Abu Klea valley along which ran a sandy khor,⁵⁰ was then moved further to the right: that way the formation kept moving parallel to the khor and «clear of ground in which the enemy might lie concealed», but at «the disadvantage of crossing ground that was difficult for camels and guns».⁵¹ As pointed out by Verner, the camels were simply too many and their straggling mass – further hampered by the animals felled by the enemy fire – constantly threatened to «force out the [rear] side of the square».⁵² Furthermore, «frequent halts had to be made to enable the doctors to attend to the wounded and mount them in cacolets».⁵³ As soon as the British, in the course of such a cumbersome advance, got within 1.500 yards of the line of the Mahdist flags, a new halt was called and the screw guns put into action, apparently with some measure of success.⁵⁴

Wilson recalled that when the skirmishers got within about 200 yards of the flags, the enemy rose *en masse* «from the ravine in which they were hidden, in the most perfect order»: he oddly compared the Mahdist formation to the old phalanx or, in his own words, to something resembling «three phalanxes with

48 GLEICHEN, *Camel Corps*, p. 125; COLVILE, *Official History*, vol. 2, p. 16.

49 COLVILE, *Official History*, vol. 2, p. 16; WHITAKER, *Verner Diary*, p. 41.

50 A seasonal watercourse, dry at the time of the battle.

51 *Ibid.*, vol. 2, p. 17.

52 WHITAKER, *Verner Diary*, p. 41.

53 GLEICHEN, *Camel Corps*, p. 128. The cacolet was a stretcher mounted on a side (or both sides) of a camel.

54 COLVILE, *Official History*, vol. 2 p. 17.

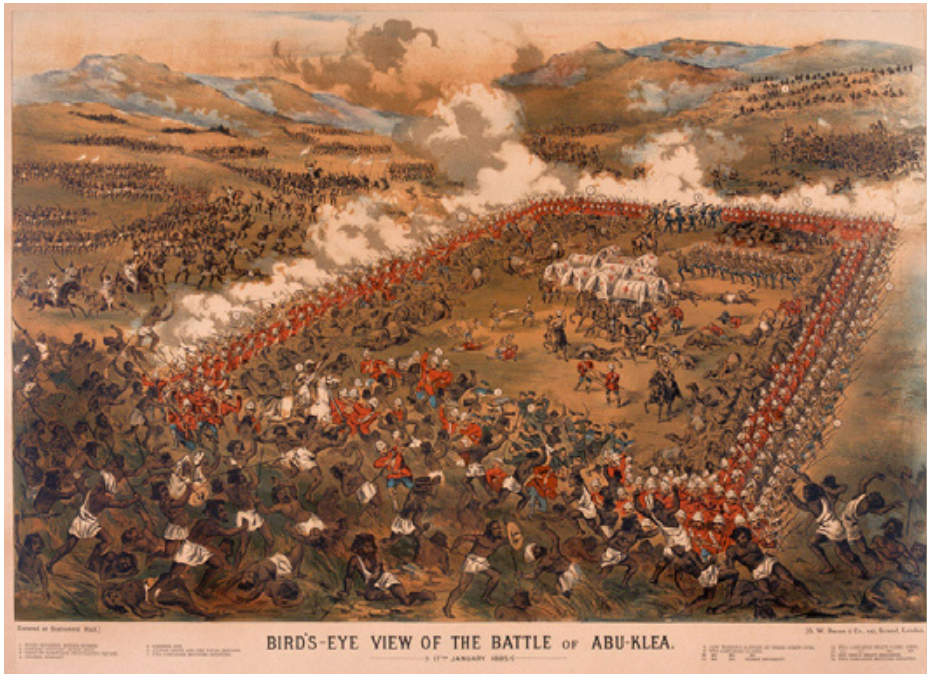


Fig. 2. 'Bird's-Eye view of the Battle of Abu-Klea', 17th January 1885, National Army Museum, Study collection. Not NAM Copyright, Artist's Estate

rows of men behind. At the head of each rode an emir or sheikh with a banner, accompanied by personal attendants, and then came the fighting men. They advanced at a quick even pace as if on parade, and our skirmishers had only just time to get into the square before they were upon us».⁵⁵

It would probably better convey the idea to say that the Mahdists neatly manoeuvred in three serried wedges, or staged a three-pronged attack aimed at enveloping the British square. It is also safe to assume that the skirmishers proved to be a worse inconvenience than Wilson was ready to admit, masking the fire «until the spearmen were within 200 yards of the square»⁵⁶ and preventing the Heavies on the left flank from shooting at them.⁵⁷ It was not the only thing going awry at the beginning of the battle: indeed, with their advance checked by the

⁵⁵ WILSON, *Korti to Khartum*, pp. 26-27.

⁵⁶ COLVILLE, *Official History*, vol. 2. p. 18.

⁵⁷ WHITAKER, *Verner Diary*, p. 42.

British fire all along the front face of the square, the Mahdists instinctively shifted the main weight of attack more to their right,⁵⁸ taking advantage of the cover provided by the deep ravine the British formation had kept clear of. This did not merely provide them with cover; as observed by Verner, the «deep ravine led up directly from the enemy to the rear face of the square where the camels [...] were lagging behind and destroying the formation of the rear face» once again.⁵⁹

To sum up the situation, the square formation had been resorted to for an advance on broken ground, both circumstances being notoriously unfavourable to maintaining that order in the ranks on which the survival of the square rested. En passant, it is worth noting that the same circumstances had led to the breaking of the square of the 2nd Brigade at the Battle of Tamai. On the morning of 13th March 1884, having received word from an escaped prisoner that the Mahdists had concentrated in the ravine known as Khor Ghob, General Graham's two brigades had advanced in as many squares drawn in echelon, the 2nd ahead of the 1st by about six hundred yards on the right. After closing in on the Khor Ghob, Graham ordered the seven companies of the Black Watch, which formed the front and the left flank of the 2nd Brigade, to charge the enemy.⁶⁰ However, while the Scots «had opened out nearly into line»,⁶¹ the seven companies of the York and Lancaster regiment – forming the rest of the front and the right flank of the square – stood still. It was as if, Robson remarked, «the lid had been largely lifted from the box»,⁶² the Mahdists timely counterattacking and pouring into the gap. The whole brigade was thrown into disarray and compelled to retreat, only managing to reform under the covering fire provided by the 1st Brigade and M Battery.

In this respect, in providing a succinct analysis of the battle, Callwell would conclude that Tamai «affords a striking illustration of the dangers which may arise out of the assumption of the offensive in square», with the brigade disordered by its own charge and then thrown «into complete confusion» by a deter-

58 COLVILLE, *Official History*, vol. 2, p. 18; WILSON, *Korti to Khartum*, p. 28.

59 WHITAKER, *Verner Diary*, p. 42.

60 ROBSON, *Fuzzy Wuzzy*, p. 58.

61 Bennett BURLEIGH, *Desert Warfare. Being the Chronicle of the Eastern Soudan Campaign*, London, Chapman and Hall, 1884, p. 155.

62 ROBSON, *Fuzzy Wuzzy*, p. 59.

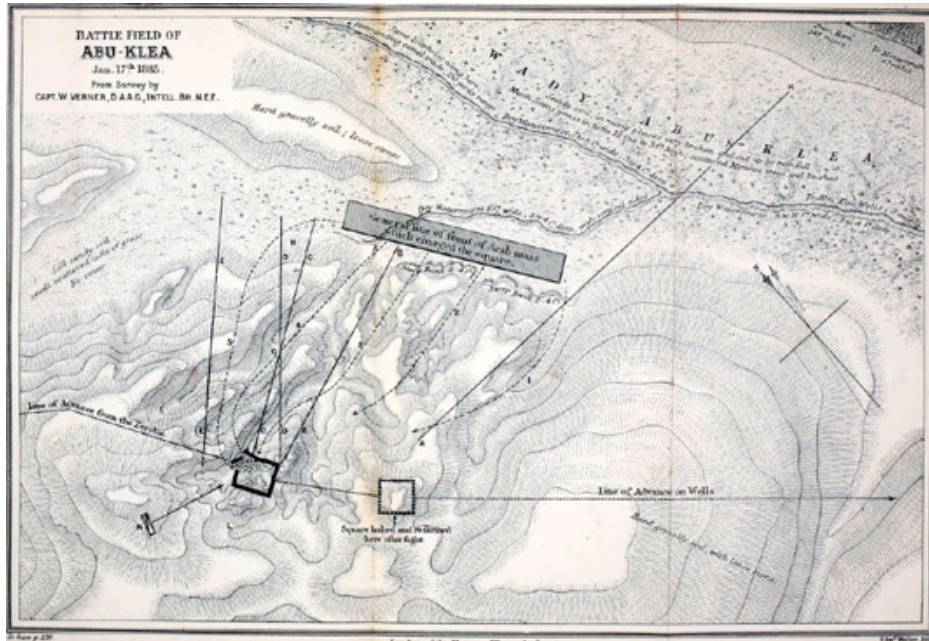


Fig. 3 Battlefield of Abu Klea, Jan. 17th, 1885 (Alexander MacDonald, *Too Late for Gordon and Khartoum*, London, Murray, 1887)

mined enemy counter-attack.⁶³ Likewise, at Abu Klea, a gap having thus opened in the square, the Mahdists had found themselves in the best position to exploit it, whether due to the unparalleled mobility of their infantry or mere luck. Still, it is likely that the occurrence of an enemy breaking into the square could have been avoided, had it not been for some serious tactical miscalculations on the part of the British.

The *Official History* records that «part of the Heavy Camel Regiment from the rear face appears to have moved somewhat to its right, to strengthen the left face, and thus to have created a gap in the rear face».⁶⁴ Specifically, it seems that the 1st Royal Dragoons detachment first left the position on the right of the rear face to line up with the Scots Grey on the left face; it was soon imitated by the No. 3 Company of the HCR, presumably on Colonel Fred Burnaby's order.

63 CALLWELL, *Small Wars*, pp. 267-268.

64 COLVILLE, *Official History*, vol. 2, p. 19.

sufficient training together – represented a serious liability. Wilson's concluding remarks on the matter deserve to be quoted at length:

«How was the square broken? you will say. Well, there are various opinions; one is, that it was a mistake to turn cavalry into infantry, and make them fight in square with an arm they were not accustomed to. Add to this, the cavalry were detachments from different regiments, only brought together a few days before we left Korti. A cavalry man is taught never to be still and that a square can be broken. How can you expect him in a moment to forget all his training, stand like a rock, and believe no one can get inside of a square? [...] The Heavy Camel Corps had marched straight up from Assuan in detachments, and its organisation was changed from troops to companies only just before leaving Korti; it had also little drill as infantry. Those who were near the Heavies told me that as the men fired they moved back involuntarily – not being taught, as infantry men are, to stand in a rigid line; they thus got clubbed together, and Burnaby tried to open them out so as to get a greater development of fire and let the Gardner play. He saw at once, however, that it was too late, and riding out met his death like a gallant English gentleman».⁶⁷

Wilson believed that, with the order to open up the square and extend the left flank, Burnaby was countering the instinctive retrograde motion of his men,⁶⁸ rather than deliberately making a tactical choice: but Burnaby did indeed give the order and paid the ultimate price for his mistake. Save for this minor detail, these are also the conclusions agreed upon by historians who have most recently dealt with the Nile Expedition. According to Snook, «seized by the same fit of madness» that had already led the 1st Royal Dragoons to quit the square, Burnaby began right-wheeling No. 3 Company, HCR;⁶⁹ Peter Hart recently noted that «although many consider that Beresford and Burnaby had erred in their deployments, perhaps not too much criticism should be made. Neither were infantry officers, who might have better understood what was required».⁷⁰

67 WILSON, *Korti to Khartum*, pp. 33-34.

68 According to Lt-Col. Reginald Talbot, who much resented Wilson's remark on the Heavies getting clubbed together, the confusion in their ranks happened after the Mahdist assault and was occasioned by the severity of the hand-to-hand fight, not before it; see R. TALBOT, "The Battle of Abu-Klea", in *The Nineteenth Century*, vol. XIX, Jan.-June 1886, p. 156. Wilson apologised and, starting with the 4th edition of his *Korti to Khartum*, accepted to include in the Appendix the portion of Talbot's article describing the battle. See WILSON, *Korti to Khartum*, 4th Edition, pp. v-vi.

69 SNOOK, *Beyond the Reach*, p. 280.

70 Peter HART, *Chain of Fire. Campaigning in Egypt and Sudan, 1882-98*, London, Profile

The reference to Charles Beresford, commander of the Naval Brigade attached to the Desert Column, alludes to his unfortunate decision to open another gap in the square – this time along the section of the left face held by the Lancers – in order to deploy the Gardner.⁷¹ The crew got outside of the formation, but the machine gun jammed after some seventy rounds and the men were surrounded by the Mahdists and killed.⁷² Luckily Beresford, who had laid the Gardner himself, was «carried bodily backwards by the tremendous impact of the rush, right back upon the front rank of the men of Number 4 Company» and survived.⁷³

As recounted by Gleichen, with the Mahdists having broken into the square, «everything depended on the front and right faces standing fast. And well did they stick to it».⁷⁴ The ranks about-faced and took advantage «of finding themselves on higher ground, and to fire over the heads of those engaged in a hand-to-hand struggle, on to the mass of the enemy behind». The tangle of the camels, which up to that moment had contributed to the disruption of the British formation, also turned out to be a source of strength acting as a natural barrier which broke the rush of the Mahdists.⁷⁵ And, in the end, «the slaughter caused by the musketry from the rising ground caused the rearward Arabs to waver and then to fall back». According to the *Official History*, the action between the breaking in of the enemy and the elimination of the last men who had penetrated the square had lasted something less than five minutes.⁷⁶ If colonial operations were usually perceived as relatively inexpensive affairs, this time the cost had been disproportionately high: the losses amounted to 9 officers and 65 non-commissioned officers and men killed; 9 officers and 85 non-commissioned officers and

Books, 2024, p. 140.

71 WHITAKER, *Verner Diary*, p. 42.

72 This was only the last of many instances in which machine guns had proven their unreliability, their mechanical issues preventing them from securing a decisive edge on the battlefield; see ROBSON, *Fuzzy Wuzzy*, p. 72: both the Gatlings and the Gardners «had proven singularly unreliable», and «at Tamai in particular the Gardners had jammed at a critical moment». This was tacitly recognised by Callwell himself, who noted that «at Tamai the machine guns were in front of the square which was broken»; see, ID., *Small Wars*, p. 263.

73 CHARLES BERESFORD, *The Memoirs of Lord Charles Beresford. Written by Himself*, Boston, Little, Brown & Company, 1914, vol. 1, pp. 263-264.

74 GLEICHEN, *Camel Corps*, p. 132.

75 COLVILLE, *Official History*, vol. 2, p. 19.

76 *Ibid.*, vol. 2, p. 19.

men wounded. Captain Lord St. Vincent and Lieutenant J. D. Guthrie would eventually die from their wounds.⁷⁷ The battle of Abu Klea had been traumatic enough to spark a spirited debate.

A formation peculiar to small wars

Although the choice of the square as a formation capable of summarising the experience of colonial warfare might seem arbitrary at first glance, already in 1885 Major C. Cooper King observed that «squares have gradually assumed an authoritatively recognised position as the most suitable tactical formations for such warfare.»⁷⁸ This was exactly the kind of received wisdom Cooper King was about to challenge in his lecture, although it had never been an article of faith. Only four years earlier, in what can be considered as the first attempt at producing a comprehensive theoretical analysis of colonial warfare and its features, Lieutenant Reginald Da Costa Porter had written that «few of those who stood in the square of Ulundi were satisfied that the last word had been spoken on the subject. The formation [...] was not one of universal application. It might answer in a level plain so long as the enemy was kind enough to advance boldly in the open. It must fail on broken ground or where the enemy has to be attacked».⁷⁹

⁷⁷ *Ibid.*, vol. 2, p. 20.

⁷⁸ C. COOPER KING, “Soudan Warfare”, in *The RUSI Journal*, 29:131, 1885, p. 887.

⁷⁹ Reginald DA COSTA PORTER, “Warfare Against Uncivilised Races: or, How to Fight Greatly Superior Forces of an Uncivilised and Badly-Armed Enemy”, in *Professional Papers of the Corps of Royal Engineers*, vol. VI, Royal Engineer Institute by Edward Stanford, 1882, p. 345. Actually, Da Costa Porter was not the first to write about the realities of “savage warfare”, Sir Samuel White Baker and Col. John Cox Gawler having preceded him. Still, both authors approached the subject from a narrow perspective limited to the bush warfare they had first-hand experience of, respectively in Southern Sudan against the Bari tribe and in South Africa against the Xhosas. While offering a detailed description of that kind of desultory warfare consisting of small parties and skirmishes around isolated outposts, Baker refrains from offering any theoretical reflections on colonial operations beyond recommending the adoption of the native tactics – to be combined «with the general manoeuvres of regulars» – and the employment of black troops because accustomed to conditions «that would have been trying to Europeans». Some sound principles of a more general nature – although still limited to the usual framework of guerrilla warfare in which the enemy refrains from confrontation in the open and must therefore be dislodged from his positions – are offered by Col. Gawler: accordingly, enemy territory has to be swept by «columns of from 300 to 500 men, operating in

As seen, these were precisely the conditions that had governed the use of the square at Abu Klea. The objections put forward by Cooper King were similar: in echoing the words of the many articles published in the wake of Abu Klea, the square was deemed to be «an unintelligent and dangerous formation», one «which neutralises the advantages of superior training and weapons» combining «a maximum of loss from hostile fire, and a maximum of confusion [...] with a minimum of mobility».⁸⁰

All these remarks were, to some extent, well-grounded; the point is that the suggested alternatives were rather unconvincing. The cause of the line formation was pleaded; but the most recent case produced in its support, that of the battle of Ahmed Khel in which the line had won the day, was indeed an example of an enemy who – by Cooper King’s own admission – had proved unwilling or unable to attack *en masse*. In «the first charge the enemy never really closed in strength», thus letting the British check the Afghans head-on, by means of sheer firepower; only at a later stage «the attack was further pushed around the flanks» and repulsed in turn.⁸¹

How dangerous was the game of deploying in line and relying solely on firepower to tackle the enemy – «and for the purposes of a fire-fight *only*»⁸² the

connection with each other on parallel or convergent *main* lines», with the aim «to discover wherein [...] lies the strength of the enemy, and his power to maintain the war» and seize it. See, Sir Samuel White BAKER PACHA, “Experience in Savage Warfare”, in *The RUSI Journal*, 17:75, 1873, pp. 906, 908; COLONEL GAWLER, Late 73rd Regiment, “British Troops and Savage Warfare, with Special Reference to the Kafir Wars”, in *The RUSI Journal*, 17:75, 1873, pp. 924-925. Albeit based primarily on the author’s first-hand experience during the Anglo-Zulu War of 1879, still Da Costa Porter’s treatise stands as the first attempt to integrate the major lessons learned during the Ashanti War and the most recent Second Anglo-Afghan War, striving to combine the principles of continental warfare with the field experience of colonial warfare in a coherent treatment of the strategic, tactical and logistic features of small wars.

80 COOPER KING, “Soudan Warfare”, p. 888. As pointed out by Spears in *Id.*, *Victorian Army*, p. 289, after Abu Klea the increasingly vociferous opposition to the square formation was led by General Sir Patrick Leonard MacDougall.

81 *Ibid.*, pp. 890-891. Moreover, Ahmed Khel was hardly a model of well-conducted battle: Stewart’s column was caught in marching order and, instead of halting and concentrating his force, the commander ordered to push forward, exposing his line to the first, massive attack of the Ghilzais. After the initial crisis firepower started to reassert itself, but Stewart «had been totally surprised and very nearly paid the penalty»; see, Brian ROBSON, *The Road to Kabul. The Second Afghan War, 1878-1881*, Staplehurst, Spellmount, 2003, pp. 195-196.

82 In italics in the text.

wider the from occupied the better» – had been already stressed by Da Costa Porter: «Isandhlwana came as a rude awakening from this dream of security [...] Isandhlwana proved that under certain circumstances our fire would not stop them», thus reasserting the need for close order formations.⁸³ This was exactly what Cooper King proved unable to appreciate by stating that «the more lead that crosses the attacking zone the better».⁸⁴ In the end, the condition he nonchalantly mentioned for a safe employment of the line, i.e. «provided its flank were safe»,⁸⁵ was the hardest to be met both in the Zululand and in Sudan.

However unsatisfactory the formation may have been, there seems to have been no obvious alternative to the infantry square. The conditions to which Cooper King wanted to confine the only logical use of the square, namely «a small force operating isolatedly against large numbers»,⁸⁶ were the very same conditions under which colonial campaigns were ordinarily waged: thus, his criticism of the operations in Sudan fell rather short of the mark. It does not come as a surprise that some twenty years later, in his summary of the season of European campaigns of colonial conquest,⁸⁷ Callwell could still write that the square was «a formation peculiar to small wars».⁸⁸ Indeed, Cooper-King's inability to grasp the peculiar realities of colonial warfare should be more appropriately understood once framed within the context of the «great divide» between continentalists, traditionalists, and proponents of an “imperial school” that marked the Brit-

83 DA COSTA PORTER, “Warfare Against Uncivilised Races”, pp. 359-360.

84 COOPER KING, “Soudan Warfare”, p. 892.

85 *Ibid.*, p. 890.

86 *Ibid.*, p. 893.

87 Douglas Porch, although criticising Callwell for his «over-reliance on operational solutions to political problems» and while conceding that *Small Wars* is «distinctly a period piece, artifact of an era for which few monuments remain», praised him for providing «a vision of future combat» due to his profound knowledge of irregular warfare. More categorical is Daniel Whittingham, by stating that «Callwell was not a theorist of counterinsurgency as we would understand the term today». The wars of imperial conquest he described were soon to be replaced by the markedly different «imperial policing operations, then by counterinsurgency and wars of decolonisation». See DOUGLAS PORCH, “Introduction” to C. E. CALLWELL, *Small Wars. Their Principles & Practice. Third Edition*, University of Nebraska Press, pp. vii, xv; DANIEL WHITTINGHAM, *Charles E. Callwell and the British Way in Warfare*, Cambridge, Cambridge University Press, 2020, pp. 40-41.

88 CALLWELL, *Small Wars*, p. 256.

ish Army at the time.⁸⁹ It is no coincidence that the discussion held after Cooper King's lecture saw the participation of prominent figures – most notably Edward B. Hamley and Lonsdale Hale, two of the leading proponents of the continentalist school – who were intent on levelling an increasing amount of criticism at colonial tactics while extolling the traditional virtues of the line formation.⁹⁰ Hale's opinion on colonial campaigns, according to which «Afghan, Egyptian, and Zulu warfare» were «merely the play of children», bearing «no similarity whatever» to the European warfare and offering no relevant teaching,⁹¹ clearly illustrates the continentalists' approach to small wars as a regressive form of warfare: a notion bound to enjoy lasting success and which G. F. R. Henderson, as we shall see further on, would strive to counter.

To the continentalists' stance, and specifically to Cooper King's allusion to the unsuitability of the square in colonial warfare by means of a comparison with European battlefields – where «the dissolution of the close formation under the terrible breech-loading fire was recognised as unavoidable» – Callwell ideally replied that «theory cannot be accepted as conclusive when practice points the other way».⁹² Indeed, he did not deny the «manifold drawbacks»⁹³ of the formation and his critical remarks were quite close to those of Cooper King: the square allowed «a limited development of fire» while offering «a particularly good target for the hostile fire».⁹⁴

Likewise, *Small Wars* could not offer any solution to the dilemma between security and firepower we have just touched upon. Indeed, victory on the colonial battlefield was a matter of developing overwhelming firepower and bringing it to bear on the enemy. As we already observed, however, with the Anglo-Zulu War practice had showed for the first time that fire was not always enough to stop an adversary willing to engage at close quarters. It could not ensure the security of the troops alone. That security had to be provided by means of close

89 Howard BAILES, «Patterns of Thought in the Late Victorian Army», in *Journal of Strategic Studies*, 4:1, 1981, pp. 29-30.

90 *Ibid.*, pp. 31-32, 34; COOPER KING, «Soudan Warfare», pp. 898-900, 904-905.

91 BAILES, «Patterns of Thought», p. 32; SPEARS, *Victorian Army*, p. 246.

92 COOPER KING, «Soudan Warfare», p. 888; CALLWELL, *Small Wars*, p. 270.

93 CALLWELL, *Small Wars*, p. 258.

94 *Ibid.*, p. 266.

order formations – such as the square – which, however, mortified the firepower. In this respect, Callwell remarked that «the limited development of fire which this order of battle admits» was a serious matter and «there seems to be no safe plan of increasing this at a critical moment». The example provided is telling: «wheeling forward the sides in the direction where the enemy may be, cannot be attempted at close quarters in face of active warriors, who would be round the flanks in a moment – as appears indeed actually to have happened at Abu Klea».⁹⁵

Callwell was fully conversant with Sudanese affairs and the details of the Nile Expedition. In 1887 he had been assigned to the Intelligence Department and «put in entire charge of matters in connection with Egypt and the Sudan», and when Colonel Colvile had fallen ill Henry Brackenbury had entrusted him with the task of completing the *Official History*. In such a capacity Callwell had met «many of the prominent actors of the drama – Colonel Sir C. Wilson, Major Willoughby Verner, Lord Falmouth, Lord Dundonald, and others – called in to see me at different times to give their views and to suggest improvements».⁹⁶ Despite professing that Colvile's work was at an advanced stage, with «copies already submitted to various authorities concerned in the operations»⁹⁷ so as to collect their feedbacks, still it seems that Callwell had enough room to leave a mark: it is in the *Official History* that the first formulation of that maxim on colonial wars as wars against nature, later to be enshrined in *Small Wars*, can be found.⁹⁸

Consequently, *Small Wars* is replete with references to military operations in Sudan and observations that explicitly refer, or implicitly allude, to lessons which could be deduced from the pitched battles of El Teb, Tamai, Abu Klea and Abu Kru. In consideration of Callwell's insistence on the very nature of small wars as campaign marked by daunting logistic difficulties – waged against the backdrop of barren or depopulated territories characterised by hostile natural

95 *Ibid.*, p. 267.

96 C. E. CALLWELL, *Stray Recollections*, London, Edward Arnold & Co., 1923, vol. 1, pp. 304, 318-321.

97 *Ibid.*, p. 320.

98 COLVILE, *Official History*, vol. 1, p. 61: «The Nile Expedition was a campaign less against man than against nature and against time».

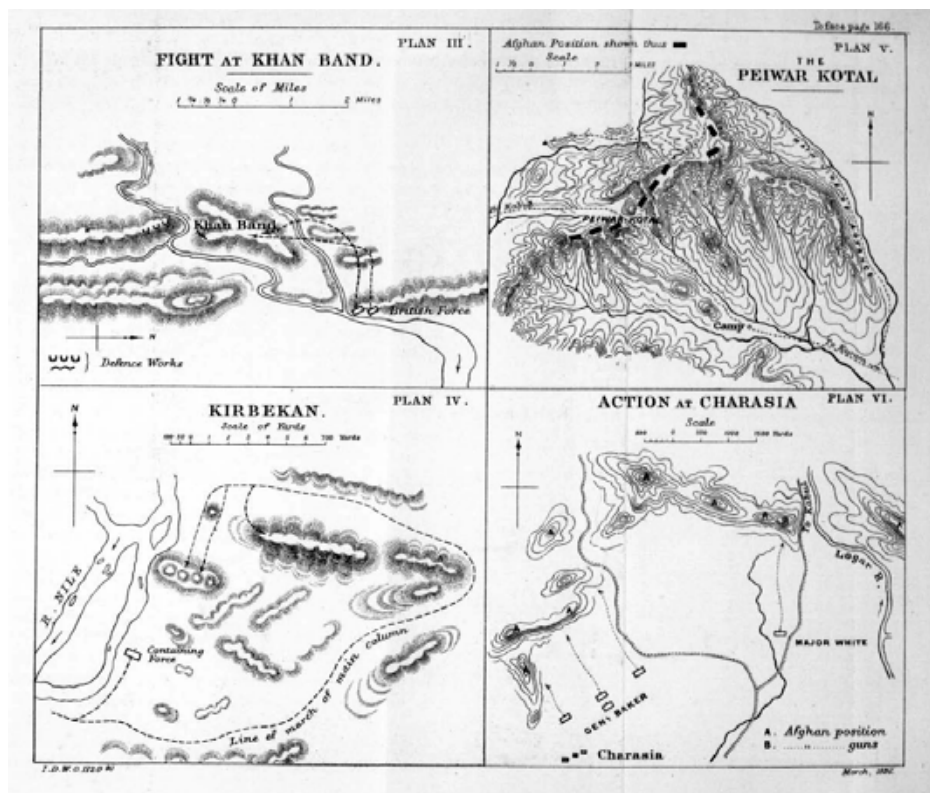


Fig. 5. Callwell, *Small Wars*, p. 166.

conditions and traversed by overextended lines of communication – *Small Wars* aptly emphasises the other major factor which, alongside troop security, governed the adoption of the square in combat.

«The square formation», Callwell observed, «has frequently been adopted as an order of march as the only means of safe-guarding the convoys which accompany the regular force, and the troops have marched great distances so drawn up. Even when a force is going deliberately into action, there are always non-combatant services to be protected in these wars – the safeguarding of these is one main cause of the adoption of the square as order of battle».⁹⁹ This was also the reason behind the adoption of the square at Abu Klea, and Callwell

⁹⁹ CALLWELL, *Small Wars*, p. 271.

recognised that the baggage had played a key role in disrupting the rear face of the formation.¹⁰⁰

That the «question of supplies» had such a bearing on colonial warfare that it largely dictated battle tactics was something totally lost on critics the likes of Cooper King who, reasoning *à rebours*, blamed the mass of impedimenta typical of colonial operations on an alleged «excessive care for the comfort of the men».¹⁰¹ On one specific point, though, Callwell's insight may be questioned: while addressing how the square offered «a particularly good target for hostile fire», to the point that «even bad marksmen armed with indifferent, antiquated weapons can do damage when they have a square to aim at», still he concluded that «the losses incurred from enemy's small arms are seldom very appreciable even at comparatively speaking short range».¹⁰² In the end, concluded Callwell, the limited firepower admitted by the square was «a more serious matter than the target which it presents to the enemy».¹⁰³ By the time the third and final edition of *Small Wars* was published in 1906, this could no longer be seriously maintained in the face of an increasing body of evidence; moreover, it may be convincingly argued that the Nile Campaign had already shown that the days of close order formations were coming to an end on the colonial battlefield.

Trying and arduous circumstances

At Abu Kru, the last pitched battle the Desert Column went through on January 19th before finally reaching the Nile, the British infantry soon came under «a hot fire from the long grass in which they [the Mahdists] were concealed, and which prevented the fire being returned with much effect».¹⁰⁴ In analysing the predicament of the Desert Column, Snook not inappropriately compares its commanding position – a zareba on top of a small gravel hill – to the position held by Sir George Pomeroy Colley at Majuba Hill. There the British had been pinned down and ultimately annihilated by the Boer fire: «in the age of

100 *Ibid.*, p. 262: «the rear face being bulged out by the non-combatants as occurred at Abu Klea».

101 COOPER KING, «Soudan Warfare», p. 895.

102 CALLWELL, *Small Wars*, p. 266.

103 *Ibid.*, p. 267.

104 COLVILLE, *Official History*, vol. 2, p. 25.

breech-loading rifles occupying the high ground was no longer the defensive panacea it had once been, especially where low-lying cover offered rifle-armed attackers a wealth of well-concealed fire positions».¹⁰⁵

As for Abu Kru, not before long Stewart was mortally wounded and his private secretary, St. Leger Herbert, killed¹⁰⁶ together with several dozen members of the Camel Corps:¹⁰⁷ all felled by such an accurate fire that Verner did not hesitate to qualify the enemy as «sharpshooters».¹⁰⁸ While it seems that Stewart had «wished us to remain where we were until the enemy should summon courage to attack us and deliver a charge», fearing that otherwise such a «small square might be rushed by the enemy's overwhelming numbers»,¹⁰⁹ it quickly became clear that an action in the open field had to be attempted. Actually, as recounted by Bennet Burleigh in his report for the *Daily Telegraph*, a council of war presided by Wilson had already resolved «to march out with a square of about 1.200 men which should fight its way on foot to the Nile», in case the enemy had not attacked by 2.00 pm.¹¹⁰ Although the course of action at Abu Kru might look similar to that at Abu Klea – the British built a zareba and waited for the enemy attack from a solid defensive position; when this failed to materialise, they seized the initiative and engaged them – it is apparent that, while at Abu Klea the decision to attack in the open was only one of several possible options, at Abu Kru the square was compelled to seek battle – and against overwhelming odds – lest the British force be annihilated by the enemy fire. The Mahdists, as already observed, were armed with modern Remington rifles and the continual fire from an invisible enemy was exceptionally trying to the men; as acknowledged by the *Official History*, «it was with cheers of relief» that the British soldiers «greeted the Arabs, who were seen suddenly preparing for a charge».¹¹¹

In the end, the enemy obliged and gave the British infantry exactly that kind of close-quarters battle they were seeking: that, Verner observed, «was the turn-

105 SNOOK, *Beyond the Reach*, p. 347.

106 WILSON, *Korti to Khartum*, pp. 63-65; COLVILLE, *Official History*, vol. 2, p. 26.

107 SNOOK, *Beyond the Reach*, p. 355.

108 WHITAKER, *Verner Diary*, p. 51.

109 *Ibid.*, p. 52.

110 Bennet BURLEIGH, *Daily Telegraph report*, 24th January 1885.

111 COLVILLE, *Official History*, vol. 2, p. 26.

ing point of the fight». Hence, «as the white coats reached a certain point some 500 yards from us, they fell in rows in response to our volleys and although some individuals were dropped 50 yards from the front face, the great mass withered away when some 400 yards from us and retreated over the ridge».¹¹² The fight was virtually over and yet, for a battle which – unlike Abu Klea – never got to hand-to-hand combat, it was remarkably costly: the British losses amounted to 1 officer and 22 non-commissioned officers and men killed; 8 officers and 90 non-commissioned officers and men wounded.¹¹³ Had the Mahdists refused to engage and kept firing from concealed positions, it is also reasonable to assume that the British column would have been destroyed.

Indeed, there is something in the battle of Abu Kru that foreshadows the near future of irregular operations:¹¹⁴ something that will arise again with the 1897-98 Tirah Campaign, and which Callwell would be able to fully grasp after the Great Boer War. Operations along the North-West Frontier had always been particularly demanding; yet, as stressed by Sir William Lockhart in his final report, «no campaign on the frontiers of India has been conducted under more trying and arduous circumstances than those encountered by the Tirah Expeditionary Force». The initial expectations had generally been that of having to deal with *lashkars* still reliant on hand-to-hand combat, supported by occasional rifle fire; the British, instead, were confronted with «skilled marksmen, exceptionally active and well armed and expert in guerrilla tactics» who, «while avoiding serious resistance to the advance of the troops they have lost no opportunity of harassing both on the march and in bivouac».¹¹⁵

The most significant development of frontier warfare – that is, the dramatic improvement of size and quality of the tribal arsenal with the acquisition of

112 WHITAKER, *Verner Diary*, p. 55.

113 COLVILLE, *Official History*, vol. 2, p. 27.

114 WHITTINGHAM, *Callwell and the British Way of War*, p. 43, maintains that «the differences between the Sudan, Tirah and South Africa campaigns were particularly striking» and this remark holds true indeed, when considering battles such as Tamai and Abu Klea, or Atbara and Omdurman during the 1896-1899 campaign, as representative of the kind of operations carried out in Sudan. Still, Abu Kru emerges as a significant exception.

115 T. R. MOREMAN, *The Army in India and the Development of Frontier Warfare, 1849-1947*, Basingstoke, Palgrave, 1998, p. 68.

modern breech-loaders¹¹⁶ – was not lost on Callwell. Already in the 1899 Edition of *Small Wars* he managed to add a 55-page long new chapter dedicated to hill warfare. In it he cared to stress how formidable adversaries, such as the Afridis already were, «have acquired a stock of modern rifles, which have made their tactics far more difficult to cope with than when they trusted to antiquated matchlocks having neither range nor accuracy», thus making «the Tirah campaign the most dangerous and arduous struggle in which British troops have been engaged since the Indian Mutiny».¹¹⁷

In 1911 Callwell was to return to the subject with his *Tirah. 1897*, in which the broader implications of the diffusion of «accurate long-range firearms» upon «the small wars of the future» were clearly pinpointed. The accurate musketry was not just liable to cause casualties and give rise to delays;¹¹⁸ far more crucial was the fact that «the compact [infantry] formations which have hitherto proved so effective when meeting the charge of swarms of savages could not well be maintained in face of the fire of scattered marksmen shooting from well-chosen positions at long range».¹¹⁹ The age of the square as «a formation peculiar to small wars» had really come to an end. However, this assessment benefited greatly from hindsight: by the time of the publication of his study on the Tirah campaign, Callwell had already been through the experience of the South African battlefields and declared, together with Henderson, that a revolution had taken place on the battlefield.¹²⁰

A great square bastion

As perceptively grasped by G. F. R. Henderson, the strategic situation at the onset of the Great Boer War and the resulting course of the operations was a direct consequence of the «careless dispositions of the frontier garrisons» in

¹¹⁶ *Ibid.*, p. 69.

¹¹⁷ CALLWELL, *Small Wars*, 1899 Edition, p. 251.

¹¹⁸ C. E. CALLWELL, *Tirah. 1897*, London, Constable and Co., 1911, p. 152.

¹¹⁹ *Ibid.*, p. 154.

¹²⁰ C. E. CALLWELL, *The Tactics of To-day*, Edinburgh, William Blackwood and Sons, 1909, pp. 105-106; G. F. R. HENDERSON, *The Science of War. A Collection of Essays and Lectures, 1892-1903*, London, Longmans, Green, & Co., 1905, pp. 371-372.

peacetime.¹²¹ Therefore, «five British garrisons were beleaguered in posts which were hardly defensible»;¹²² and with the siege pressed by the Boers at Ladysmith, Kimberley and Mafeking, the relief of the first two outposts became a pressing necessity. While raising the siege of Kimberley – Cecil Rhodes' diamond capital – was a decision driven by overriding political necessities,¹²³ the relief of Ladysmith appeared to Sir Redvers Buller, the new commander-in-chief of the forces in South Africa, as a matter dictated by sound military considerations: by holding out at Ladysmith, Sir George White was in fact «detaining north of the Tugela the main strength of the enemy's army».¹²⁴ Hence the decision of advancing by two distinct lines of operation in order to succour both garrisons at the same time.

This was a course of action, as remarked by Henderson, not necessarily fatal and even advantageous, provided that «each column is unquestionably superior to any force that the enemy may concentrate against it». Still, it was an «unquestionably dangerous» arrangement; all the more so since, in this case, «one wing could do nothing to support the other».¹²⁵ Indeed, such a decision did not merely thwart the concentration of the field armies «on the line most favourable for offensive operations»;¹²⁶ on the tactical level, it also allowed the Boers to accept battle on their own terms, on a terrain of their choosing. The Orange River was not an insurmountable barrier on the road to Kimberley: shrunk to a third of its regular width during the rainy season and muddy, it was also crossed by a railway bridge that the Boers had never thought of seizing or destroying and which had fallen into the hands of Lord Methuen's forces.¹²⁷

The subsequent engagements at Belmont and Graspan had been inconclusive

121 ANONYMOUS [G. F. R. HENDERSON], «The War in South Africa», Art. XII, *Blackwood's Edinburgh Magazine*, 95:167, 1900, p. 267.

122 *Ibid.*, p. 265.

123 Geoffrey POWELL, *Buller: A Scapegoat? A Life of General Sir Revers Buller, 1839-1908*, London, Leo Cooper, 1994, p. 135; Thomas PAKENHAM, *The Boer War*, New York, Random House, 1979, pp. 163-164.

124 Frederick MAURICE (Ed.), *History of the War in South Africa, 1899-1902. Compiled by Direction of His Majesty's Government*, London, Hurst and Blackett, 1906, vol. 1, p. 208.

125 [HENDERSON], *War in South Africa*, p. 266.

126 *Ibid.*, p. 267.

127 PAKENHAM, *Boer War*, p. 183.

affairs, with the Boers unable to stop the British advance and the British, in turn, incapable of inflicting a sharp blow to the enemy. The failure of Koos de la Rey was not extraneous to the fact that «the Boers had entrenched themselves upon high and rugged kopjes, of which apparent strength became a source of weakness».¹²⁸ We already managed to observe in the case of the battle of Abu Kru how, in the age of the breech-loading rifles, occupying the high ground was no longer the key to an effective defence. As stressed by the *Official History*, «the plunging fire» of the riflemen holding the works «never yields satisfactory results» and, in these specific circumstances, the hills occupied by the Boers also «afforded an excellent target for the British artillery».¹²⁹

An altogether different matter was the forcing of the Tugela line in order to relieve Ladysmith: this «was not a gentle, muddy river like the Orange or the Modder. It came roaring down from the Drakensberg, a creature of sudden storms high in the mountains. Even during the present heatwave it might be just too deep for the soldiers to wade through».¹³⁰ The *Official History* described it as «an admirable moat, as completely commanded by the heights on its left banks as is the ditch of a permanent work by its parapet».¹³¹ Understandably, Buller was in great distress at the prospect of crossing it in the face of the enemy, and he had come up with a scheme for a flank march culminating in a frontal attack through the ford at Potgieters Drift.¹³²

The decision to manoeuvre along the Tugela up to Potgieters – signalled on 11th December to the Ladysmith garrison – was short-lived: that very day Buller received news of Gatacre's reverse at Stormberg and, the following day, of Methuen's defeat at Magersfontein.¹³³ In the latter case the Boers, this time

128 MAURICE, *Official History*, vol. 1, p. 243.

129 *Ibid.*, p. 243.

130 PAKENHAM, *Boer War*, p. 225.

131 MAURICE, *Official History*, vol. 1, p. 336.

132 *Ibid.*, vol. 1, p. 338; PAKENHAM, *Boer War*, pp. 219-220. It seems that the choice had fallen on Potgieters Drift not just in the attempt of outflanking the Boer defensive line along the Tugela, but also because the ford at Potgieters was the only one which could be easily waded by loaded ox-wagons; see POWELL, *Buller*, p. 143.

133 PAKENHAM, *Boer War*, p. 223, who differs from the *Official History*, according to which Sir George White had already been informed on 7th December: see MAURICE, *Official History*, vol. 1, p. 336.

entrenched along inconspicuous positions on the flat veld at the foot of Magersfontein Hill, had opened a murderous fire on the British infantry. Specifically, the Highland Brigade had been caught in the process of opening up its serried mass of quarter-columns¹³⁴ into the fighting formation: that is, two companies in the firing line, two in support and four in reserve deployed two rank-deep.¹³⁵ With the general advance suddenly checked, some scattered parties had still tried to storm the hill but had been ultimately repelled: only the intervention of the artillery had made possible for the brigade to extricate itself and avoid destruction.¹³⁶

In view of the now precarious situation, it seems that Buller lost faith in the Potgieters scheme and made up his mind to mount a direct attack on Colenso: on 13th December he telegraphed to the Secretary of State for War and stressed that marching on Potgieters would have involved «the complete abandonment of my communications, and in the event of want of success, the risk that I might share the fate of Sir George White, and be cut off from Natal».¹³⁷

Although Colenso had been initially taken into consideration and already rejected due to the formidable nature of its defensive position,¹³⁸ at least it had the advantage of being the nearest crossing point on the Tugela to Ladysmith.¹³⁹ Colenso resembled «a great semi-circular amphitheatre, six miles in diameter, with sides rising from 500-1000 feet above the arena»,¹⁴⁰ the Tugela «turning sharply to the north for two miles» and then bending «northeastward down a series of rapids through a [...] gorge in the hills, ultimately resuming its course towards the east».¹⁴¹ The first of this two bends was remarkably narrow and in projecting northward it formed a salient in the Boer front which could be inter-

134 «Company behind company, each company in two lines in close order with a third line of “supernumeraries”, the whole forming an almost solid rectangle of men in ninety-six successive lines». See Leo S. AMERY (Ed.), *The Times History of the War in South Africa, 1899-1902*, London, Sampson Low, Marston and Company, 1902, vol. 2, p. 398.

135 MAURICE, *Official History*, vol. 1, pp. 318-319.

136 *Ibid.*, vol. 1, pp. 320-321.

137 MAURICE, *Official History*, vol. 1, p. 339; AMERY, *Times History*, vol. 2, p. 426-427.

138 AMERY, *Times History*, vol. 2, p. 424.

139 PAKENHAM, *Boer War*, p. 224.

140 AMERY, *Times History*, vol. 2, p. 427.

141 MAURICE, *Official History*, vol. 1, p. 340.

dicted by crossfire on three sides: it would come to represent a crucial feature in the course and final outcome of the battle. The town itself guarded two bridges: a dynamited railway bridge and a wagon bridge – also called the «iron bridge» or the «Bulwer bridge» by the *Official History*¹⁴² – adjacent to a ford (Wagon Drift).¹⁴³ Colenso was dominated by the kopjes on the north bank of the river, the most prominent of which was the so-called Fort Wylie, lying immediately to the east of the railway bridge. This, «facing the Colenso crossings», was the central sector of the Boer line and it was «very strongly held» by the Boksburg and the Heidelberg commandos, together with the Johannesburg Police and the burghers of Vryheid and Krugersdorp districts;¹⁴⁴ their trenches, the *Official History* remarks, «had been constructed with remarkable ingenuity, so as to be almost invisible from the south bank».¹⁴⁵

As it had become customary for the Boers, after the reverses at Belmont and Graspan, the defensive positions had not been dug on top of the hills, rather running along the lower slopes. In hindsight the key to this solid defensive bastion was visibly represented by Hlangwane Hill on the right, around which the river carved its easternmost bend. Lying on the southern bank of the river and physically detached from the other Boer positions, it looked down on the Colenso kopjes:¹⁴⁶ thus «the semblance of an amphitheatre» disappeared, and Hlangwane stood up «as the western flank of a great square bastion of heights» commanding the entrenchments on the left bank.¹⁴⁷ Its capture would have allowed the whole of the defences «from Fort Wylie back to the Langverwacht Spruit» to «be enfiladed or taken in reverse»,¹⁴⁸ and this way Colenso, a position that otherwise seemed almost impregnable, could have been forced.

Due to its isolation and resulting vulnerability, at first Hlangwane had also been spontaneously evacuated by the two commandos that Louis Botha – the Boer commander – had directed to defend it. Abandoned on 13th December, it

¹⁴² *Ibid.*, p. 346.

¹⁴³ PAKENHAM, *Boer War*, p. 225.

¹⁴⁴ MAURICE, *Official History*, vol. 1, p. 343.

¹⁴⁵ *Ibid.*, p. 342.

¹⁴⁶ *Ibid.*, p. 341.

¹⁴⁷ AMERY, *Times History*, vol. 2, p. 428.

¹⁴⁸ *Ibid.*, p. 431.

could be reoccupied only the following day, after a telegram sent by President Kruger himself.¹⁴⁹ It seems that Buller had never had any inkling of such a window of opportunity for seizing the hill.¹⁵⁰

I never saw a Boer all day

This unfortunate occurrence notwithstanding, it also seems that the tactical importance of Hlangwane was not totally lost on Buller, who nevertheless came to the conclusion that seizing it would have been too difficult, for the hill «was itself commanded by ridges of scrub-covered hills extending over six miles».¹⁵¹ Instead, he placed his trust in a scheme envisaging a simple frontal attack on the Boer trenches before Colenso,¹⁵² even though it included some elements of a rough manoeuvre: namely, the 5th Brigade (Maj. Gen. A. F. Hart) would have crossed the river at the Bridle Drift – three and half miles upstream from the town¹⁵³ – and then moved down the left bank to enfilade the Colenso kopjes from the west.

Thus, it would have supported the 2nd Brigade (Maj. Gen. H. J. T. Hildyard) which was supposed to deliver the main attack across the Tugela «by the iron bridge» before the town.¹⁵⁴ The other two brigades were to act as reserves: the 4th Brigade (Maj. Gen. N. G. Lyttelton) by advancing «to a point between Bridle Drift and the railway, so that it can support either the 5th or the 2nd Brigade»; the 6th Brigade (Maj. Gen. G. Barton) by moving «east of the railway in the direction of Hlangwane Hill to a position where it can protect the right flank of the 2nd Brigade, and, if necessary, support it or the mounted troops referred to later as moving towards Hlangwane Hill».¹⁵⁵ In this respect, the Cavalry Brigade (Brig. Gen. Lord Dundonald, a veteran of the battle of Abu Klea)¹⁵⁶ was

149 PAKENHAM, *Boer War*, pp. 230-231.

150 AMERY, *Times History*, vol. 2, p. 438.

151 PAKENHAM, *Boer War*, p. 226.

152 AMERY, *Times History*, vol. 2, p. 435.

153 PAKENHAM, *Boer War*, p. 226.

154 MAURICE, *Official History*, vol. 1, p. 346.

155 *Ibid.*, vol. 1, p. 348: Buller's Orders issued on 14th December 1899 are reproduced in full.

156 At Abu Klea the then Captain Douglas Cochrane, 12th Earl of Dundonald, commanded the 2nd Life Guards detachment in No. 1 Company, HCR; see SNOOK, *Beyond the Reach*, p. 238.

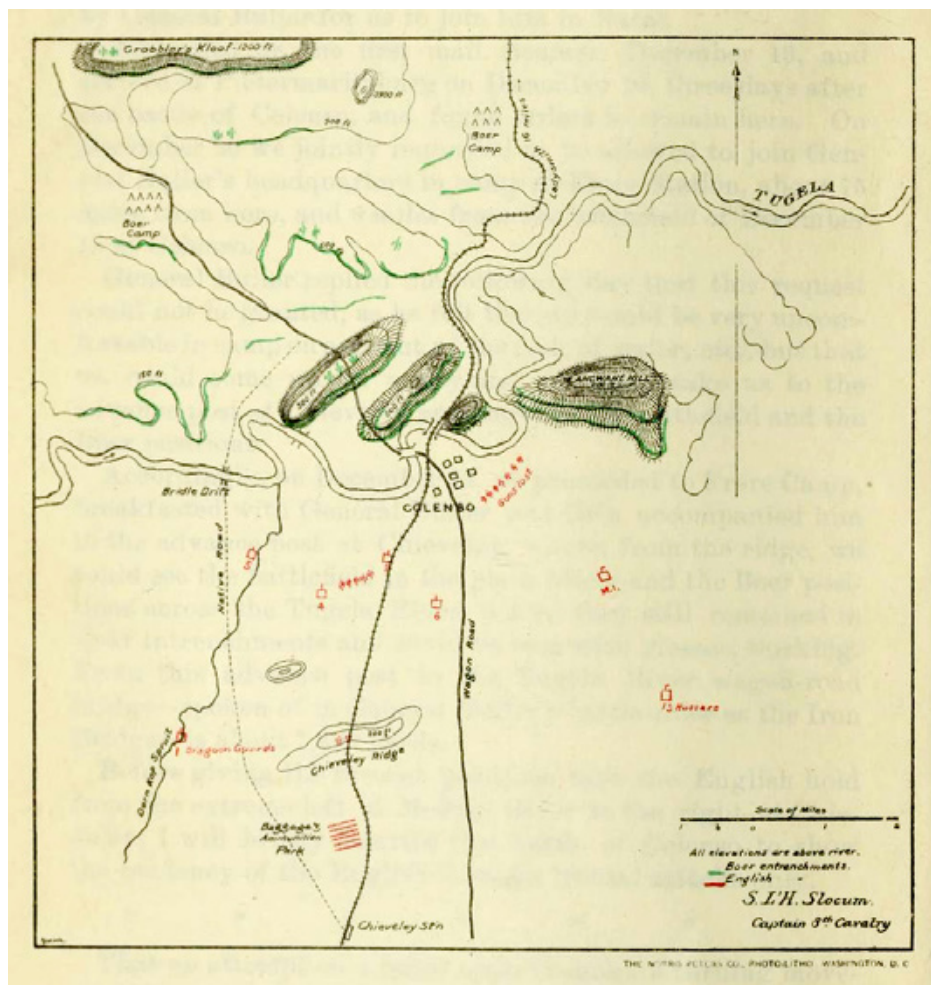


Fig. 6. The Battle of Colenso, 15th December 1899. From U. S. War Department, Adjutant General's Office, No. xxxiii, *Reports on Military Operations in South Africa and China*, Washington, G. P. O., 1901, p. 10.

supposed to cover the right flank of the general movement, while endeavouring to take up a position along the slopes of Hlangwane allowing it to enfilade the enemy entrenched on the kopjes north to Colenso.

As for the quality and combat readiness of the infantry units at hand, «the only brigade which could be considered a homogeneous unit was the 2nd: the others were merely aggregations of isolated battalions which had not had time

to get settled down, either physically or morally».¹⁵⁷ Lastly, the artillery would have supported the infantry attack: the 2nd brigade division of the Royal Field Artillery was directed to accompany the 4th Infantry Brigade and enfilade the kopjes north of the iron bridge; the 1st brigade division was to proceed under cover of the 6th Brigade and prepare the crossing of the 2nd Brigade; the twelve naval guns, split in two batteries of six pieces each, would have acted with the respective brigade divisions.¹⁵⁸

It was a simple scheme, relying on the sheer superiority of the British who could count on 14.000 infantry, 2.700 mounted men and 44 guns¹⁵⁹ compared to the 4.500 Boers spread all along the northern bank of the river.¹⁶⁰ The plan, though, was flawed in its logic: it envisaged the capture of Colenso under conditions which had initially led to the same operation being dismissed as impracticable.¹⁶¹ It would also prove to be a poorly executed one.

Things began to go awry very early in the day. On 15th December the British troops were set in motion while it was still dark.¹⁶² The 5th and the 2nd Brigades left camp and started marching at the same hour, that is at 4.00 a.m.¹⁶³ At 5.30, according to the *Times History*, the naval guns started shelling Fort Wylie, the commanding Boer position among the Colenso kopjes.¹⁶⁴ Major-General Hart had been provided both with a map and a local black guide in order to find «the Bridle Drift immediately west of the junction of the Doornkop Spruit and the Tugela»:¹⁶⁵ the man was generally considered to be reliable because he lived, it was reported to Hart, close to the drift he was directed to cross.¹⁶⁶

157 C. H. MELVILLE, *The Life of General The Right Hon. Sir Redvers Buller*, London, Edward Arnold & Co., 1923, vol. 2, p. 97.

158 MAURICE, *Official History*, vol. 1, pp. 348-349.

159 PAKENHAM, *Boer War*, p. 226.

160 *Ibid.*, p. 231.

161 "Buller to the Secretary of State for War, 12th December 1899", in MELVILLE, *Life of Buller*, vol. 2, p. 88: «After a careful reconnaissance by telescope I came to the conclusion that a direct assault upon the enemy's position at Colenso and north of it would be too costly».

162 MAURICE, *Official History*, vol. 1, p. 351.

163 *Ibid.*, vol. 1, p. 352.

164 AMERY, *Times History*, vol. 2, p. 440.

165 MAURICE, *Official History*, vol. 1, 352.

166 *Ibid.*, vol. 1, p. 353.

Following Pakenham's interpretation of what then happened, when the guide pointed to the westerly bend traced by the river, Hart deliberately disregard the map which correctly placed the ford further west of the loop, about a mile upstream, and decided instead to follow the man.¹⁶⁷ According to the *Official History*, Hart's mistake was also made possible by the fact that the sketch provided to him was mistaken: it showed the Doornkop Spruit as running into the Tugela inside the bend – rather than further west – and put the Bridle Drift «close to the junction of the spruit» with the river. Unfortunately, there was indeed a ford within the bend, which the guide was actually pointing to and near which he lived: but it was not the Bridle Drift, although the map reinforced this erroneous identification; it was not even fordable at the time of the year.¹⁶⁸ Be that as it may, the 5th Brigade kept marching ahead, instead of veering to the left, pushing forward in a serried mass of quarter-columns¹⁶⁹ into that dangerous salient of the Boer line.

While Hart's advance was in full swing, on the other end of the battlefield the artillery – as we saw earlier by examining Buller's orders – had been instructed to advance under cover of the 6th Brigade and pave the way for the main attack of the 2nd Brigade by shelling the heights right before Colenso.¹⁷⁰ In any event, the guns should have kept well clear of the enemy rifle range.¹⁷¹ Colonel Charles Long, in overall command of the artillery, decided instead to disobey the orders and go counter the very tactical wisdom of the day. The Field Artillery batteries rode past Barton's brigade and Long gave the order to come into action only when they were «nearly abreast of the village of Colenso, and within 700 yards of the river».¹⁷² In the end, the British guns turned out to be «within 1.250 yards of Fort Wylie, and not much more than 1.000 yards from the Boer infantry entrenchments between that work and the river».¹⁷³

167 PAKENHAM, *Boer War*, p. 236.

168 MAURICE, *Official History*, vol. 1, pp. 352-353.

169 *Ibid.*, p. 353.

170 See above, note 148.

171 PAKENHAM, *Boer War*, pp. 226, 239.

172 AMERY, *Times History*, vol. 2, p. 441, in which it is stressed that «as early as 1889 the Drill Book fixed 1.700 yards as the limit beyond which the artillery, unless itself supported by infantry, could not approach unbroken infantry without extreme risk».

173 MAURICE, *Official History*, vol. 1, p. 359.

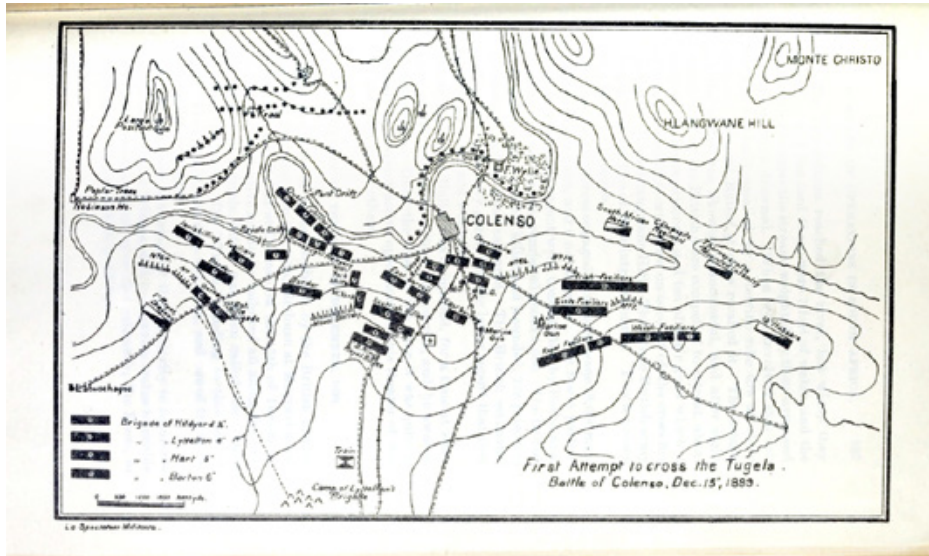


Fig. 7. First attempt to cross the Tugela: Battle of Colenso, Dec. 15th, 1899
(*Reports on Military Operations in South Africa and China*, 1901)

On the other side of the hill, Botha's plan before the battle had not just been a purely defensive one: he intended to allow the British to get as close as possible to the Tugela river and even establish some bridgeheads, before opening fire. That way, and also by means of two counter-thrusts from Hlangwane and Robinson's Drift (another ford further upstream of the Bridle Drift), he was confident he could manage to annihilate a substantial share of the enemy forces.¹⁷⁴ However, as soon as Long's batteries began to close in on the Boer trenches Botha, «fearing that their further advance would intimidate his inexperienced burghers, gave the order to fire. Immediately a storm of bullets and shells burst on the British guns, both field and naval».¹⁷⁵ Shortly after 6.00 the fire from the Mauser rifles began to sweep the British along their whole line, with Hart's brigade on the left wing caught in a deadly crossfire from three sides: the unit was still advancing into the salient in a close formation, with only the leading battalion «in fours from the right of companies at deploying intervals and the

¹⁷⁴ PAKENHAM, *Boer War*, pp. 231-232.

¹⁷⁵ MAURICE, *Official History*, vol. 1, p. 359.

rest of the brigade in mass of quarter-columns». ¹⁷⁶

In January 1900, less than a month after the fiasco of Colenso, Henderson would write that «in our own army [...] much attention has been paid to skirmishing and the reduction of losses by offering the very smallest target to the enemy's fire. The importance of these tactics have been driven home by the campaigns of the North-West Frontier; and the regimental officers in South Africa, discarding the dense and regular lines of Aldershot and Salisbury, at once deployed their men at wide intervals, encouraged them to make use of all natural cover, to imitate the Boers in invisibility». ¹⁷⁷

At that stage of the conflict, this could be held as true only in a few cases: at Elandslaagte, for instance, Colonel Ian Hamilton had instructed his men to deploy in a remarkably open order. «The advance of the Devons across an absolutely open plain» – emphasises the *Times History* – «[...] gave Colonel Hamilton an opportunity for putting to test of practice the conviction implanted in his mind by the experiences of the Tirah campaign. He had already [...] practised his brigade in extended formations unknown to the cramped confines and archaic tactics of Aldershot. He now ordered Major Park to draw up his battalion in a formation hitherto unprecedented in European warfare. Three companies in the firing line were to extend over a front of 1.000 yards, while scouts, firing line, supports, and reserves were each to be separated by 450 yards, thus giving the seven companies a depth of about a mile». ¹⁷⁸

In many other occasions this had not been the case. As seen, at Magersfontein the advance of the Highland Brigade had taken place «in mass of quarter-columns – on in other words in a column of thirty companies, one behind the other» and the Boer fire had caught it by surprise in the act of deploying in line. ¹⁷⁹ This was bound to happen again at Colenso. Indeed, the quarter-columns formation had never been intended to be used in combat and in the case of Magersfontein there had been sound reasons for its adoption: namely, the need to keep order in the ranks during a difficult night march. ¹⁸⁰ Still, in both cases

¹⁷⁶ AMERY, *Times History*, vol. 2, p. 444.

¹⁷⁷ [HENDERSON], *War in South Africa*, p. 274.

¹⁷⁸ AMERY, *Times History*, vol. 2, pp. 183-184.

¹⁷⁹ MAURICE, *Official History*, vol. 1, pp. 316-317.

¹⁸⁰ *Ibid.*, p. 316.

the column had been dangerously retained for too long, during an approaching march executed in the face of an enemy whose whereabouts were unclear.¹⁸¹ And in the case of the 5th Brigade at Colenso it seems that the only compelling reason for its retention had been Hart's old-fashioned insistence on keeping the men «well in hand» and pushing «right through regardless of the losses». Such a course of action, concluded the *Times History*, «was one quite inexcusable in broad daylight and when almost in touch with the enemy».¹⁸²

As much as we concur with this conclusion, it should nevertheless be remembered that fighting in a loose skirmishing line implied that soldiers became physically separated from the command and control functions exercised by officers and from the comforting presence of their comrades. This means that for such a formation to work, men had to be endowed with initiative, autonomy and psychological resilience that could only stem from intensive training: these qualities could not be improvised on the field of Colenso.

In the bend, once coming under enemy fire, «the Dublin Fusiliers immediately front-formed and extended to the right; the battalions in rear were deployed to the left in single rank in quick time, and were subsequently opened out with from two to three paces interval».¹⁸³ Without a well-oiled system «by which groups could alternately advance and provide covering fire»,¹⁸⁴ though, the soldiers ended up pinned down while «looking for a vestige of cover».¹⁸⁵ Therefore, the orderly advance of the whole brigade was brought to a halt and the single battalions tried to resume moving on by a series of rushes: in such a way they managed to work their way up to the salient, but at the cost of heavy losses.¹⁸⁶

This must have been compounded by the fact that the British proved unable

181 Bennett Burleigh stressed that «amongst several reasons for want of success, therefore, was the fact that the position of the enemy's guns was unknown, and the Boer trenches had not been adequately searched by a heavy artillery fire»; and that Hart's major error was that «he marched his brigade in quarter-column far within the cannon and rifle-fire zone of the Boers»; see, Bennett BURLEIGH, *The Natal Campaign*, London, Chapman & Hall, 1900, pp. 213, 231.

182 AMERY, *Times History*, vol. 2, p. 444.

183 MAURICE, *Official History*, vol. 1, p. 355.

184 PAKENHAM, *Boer War*, p. 237.

185 AMERY, *Times History*, vol. 2, p. 445.

186 MAURICE, *Official History*, vol. 1, p. 356.

to return fire: with the Boers firing from carefully concealed trenches and using smokeless cartridges,¹⁸⁷ on the part of the 5th Brigade «there was very little shooting, as nothing could be seen to aim at».¹⁸⁸ The gallant yet desperate last dash died out 300-400 yards short of the end of the loop, with «the men remained lying under such scanty cover as they could find».¹⁸⁹ By this time Buller, who had already tried twice to correct the advance of the brigade, sent Colonel Stopford with the order to direct Hart to retreat. The movement was to be covered by Lyttleton with two battalions of his 4th Brigade:¹⁹⁰ as recounted by the latter in his memoirs, «soon Buller appeared, and said, “Hart has got into a devil of a mess down there; get him out of it as best as you can”. Stragglers from the front were beginning to come in, and I gathered from them how completely the attack had failed».¹⁹¹

The attack «had lasted barely forty minutes, and in that short time had already cost over 400 casualties»;¹⁹² it was also doomed to be the only serious attempt of the day to break through the Boer lines. On the right flank, after an hour under enemy fire, Colonel Long's exposed battery were running low of ammunition and had been reduced to four men per gun, who then took refuge under the cover provided by a nearby donga.¹⁹³ In the end the guns proved irretrievable and with their loss Buller also called off the main attack. Hildyard's brigade was supposed to carry out against Colenso and the kopjes beyond the river. As reported by Buller himself in a despatch to the Secretary of State later that day, «without guns it would be impossible to force the passage of the river».¹⁹⁴ Further attempts to recover the guns – and despite Hildyard's skilled advance in loose order and by taking advantage of the scanty cover – only added more casualties to the death toll.¹⁹⁵

187 PAKENHAM, *Boer War*, p. 238.

188 MAURICE, *Official History*, vol. 1, p. 356.

189 AMERY, *Times History*, vol. 2, p. 446.

190 MAURICE, *Official History*, vol. 1, p. 357.

191 Neville LYTTLETON, *Eighty Years. Soldiering, Politics, Games*, London, Hodder and Stoughton, 1927, p. 208.

192 AMERY, *Times History*, vol. 2, p. 446.

193 MAURICE, *Official History*, vol. 1, p. 361. A donga is a narrow gully formed by water erosion.

194 *Ibid.*, p. 362.

195 AMERY, *Times History*, vol. 2, pp. 450-451.

It was now time for Lyttelton to carry out his orders and help the remnants of the 5th Brigade to extricate themselves from the salient. Under his personal command the 1st Rifle Brigade and the 1st Durham Light Infantry reached the Doornkop Spruit and opened out into a firing line at about 500 yards from the river.¹⁹⁶ The enemy fire, recounted Lyttelton, «continued on my skirmishing line, but they were so well extended, and took cover so well, that its losses were trifling».¹⁹⁷ The difficult transmission of orders up the dangerous bend and under enemy fire meant that «the foremost detachments of the intermingled battalions did not begin to fall back until nearly 10.30 a.m.».¹⁹⁸ In the end, however, Hart's brigade managed to retire in small groups, passing through the files of the Riflemen and Durham Light Infantry and under the covering fire provided by Lieut.-Col. Parson's 64th and 73rd Field Batteries.¹⁹⁹

«Thus ended» – Lyttelton commented with the flippant wisdom of hindsight – «one of the most unfortunate battles in which a British army has ever been engaged, and in none has there been a more deplorable tactical display. No proper reconnoitring of the ground, no certain information as to any ford by which to cross the river, no proper artillery preparation, no satisfactory targets for the artillery, no realisation of the importance of Hlangwane».²⁰⁰

Aside from the mistakes made by the British, however, the tactical quandary Buller had stumbled upon was glaring: «few people have seen two battles in succession in such startling contrast as Omdurman and Colenso. In the first 50.000 fanatics streamed across the open regardless of cover to certain death, while at Colenso I never saw a Boer all day till the battle was over, and it was our men who were the victims».²⁰¹ The dismay was fully shared by one of Lyttelton's officers, the future Field-Marshal Sir Henry Wilson: «Although I was under fire for 5 hours, and sometimes brisk fire, I can only swear to having seen 5 Boers. It's quite marvellous. I doubt our having killed 100».²⁰² The days in which the

196 MAURICE, *Official History*, vol. 1, p. 370.

197 LYTTELTON, *Eighty Years*, p. 208.

198 MAURICE, *Official History*, vol. 1, p. 370.

199 *Ibid.*, pp. 369-370.

200 LYTTELTON, *Eighty Years*, p. 211.

201 *Ibid.*, p. 212.

202 C. E. CALLWELL, *Field-Marshal Sir Henry Wilson. His Life and Diaries*, London, Cassell and Company, 1927, p. 29.

British could have mowed down packed enemy formations in the open field were over. After the first signs at Majuba and Abu Kru, modern warfare had finally caught up with the colonial battlefield.

A complete revolution in the art of fighting

In 1987 James J. Schneider revived an observation made by Wilhelm von Scherff on a phenomenon he had observed during the Franco-Prussian War and termed the «void of battlefield»: the increased lethality of firepower had brought to a greater dispersion of troops on the battlefield and, with it, to an ostensibly paradoxical decline in casualty rate.²⁰³ According to Schneider, after 1850 and «in the space of forty years four technological inventions occurred almost simultaneously that were dramatically to revolutionise warfare»: namely, the improvement of rifled musket, the adoption of breech-loading rifles, the invention of the magazine and the introduction of smokeless powder.²⁰⁴ Although each of these innovation, if taken separately, was still of momentous importance, Schneider came to the conclusion that only with the outbreak of the Second Anglo-Boer War «all four of the technological links discussed above were wrought together in the chain of battle». ²⁰⁵ The outcome was the creation of the *empty battlefield* characterising modern warfare. Although the nature and impact of technological challenges have obviously changed, it is worth noting that the dynamics presiding over the formation of the empty battlefield are still at play, thus confirming the validity of this conceptual framework in the analysis of contemporary battlefields.²⁰⁶

203 James J. SCHNEIDER, «The Theory of the Empty Battlefield», in *The RUSI Journal*, 132:3, 1987, p. 37.

204 *Ibid.*, p. 38-40. See also SPEARS, *Victorian Army*, p. 241: «smokeless powder realises the full potential of the magazine rifle. It permitted a rifleman to sustain rapid, aimed fire without smoke, obscuring his field of vision. This had an immense potential on the field of battle, as it increased the tactical power of the rifleman on the defensive».

205 *Ibid.*, p. 41.

206 In a recent article dedicated to the impact of drones on Ukrainian battlefields, Valery Zalu-zhny, former Commander-in-Chief of the Armed Forces of Ukraine, pointed out that «large concentration of personnel – even in defence – are no longer tenable. Any massing of troops invites near-instant destruction by FPV strike drones or by artillery adjusted by UAVs. Consequently, defence is organised as dispersed positions held by small groups operating autonomously under extreme strain. The lethal zone is widening: the recent strikes on civilian traf-

The first obvious tactical repercussion was the one which had already impressed Lyttelton and Wilson, and which Charles à Court Repington aptly highlighted: «the invisibility of the foe was certainly the most disconcerting of all the conditions of war, since the invisibility was novel and unexpected, and has never been reproduced in any peace manoeuvre at home or abroad».²⁰⁷ Such an invisibility was not just the product of the convergence of discrete technological innovations on the battlefield: in was to an equally large degree the result of a tactical adaptation in the wake of the first weeks of battle experience. As already observed in regard to what the Boers had learned from the battles of Belmont and Graspan,²⁰⁸ «finding out during the very first combats that even the excellent natural cover afforded on the crests of the kopjes was soon rendered untenable by our shrapnel, a projectile which prisoners confessed was more disagreeable than the lyddite, the Boers took at once to entrenching; and the amount of work of this sort, especially at Magersfontein, Ladysmith and on both banks of the Tugela was simply stupendous».²⁰⁹

Without ever mentioning the theory of the empty battlefield, Henderson had isolated the same factors and come to the same conclusion as early as 1901: «the critics give far too little credit [...] to the terribly demoralising effect of modern fire and the embarrassment created by smokeless powder. These last are important features of the campaign, and it is with something more than surprise that we note a stubborn refusal to admit that the flat trajectory of the small-bore rifle, together with the invisibility of the man who uses it, had wrought a complete

fic [...] illustrate how precision fires now reach deep into what used to be the rear. Naturally, not only are lines of communication wrecked; the very idea of a secure rear is fading, since its customary location behind the forward echelons – anywhere within 40 kilometres – is no longer tenable under persistent enemy fire control. As a result, defence is shifting away from active defence of positions in concert with second echelons, reserves and supporting firepower, toward the bare survival of small units constantly pressed by both remote reconnaissance-strike systems and the enemy's tactic of swarming attacks by small infantry groups». The physical, psychological and organisational contours of the empty battlefield are clearly noticeable; see <https://zn.ua/eng/innovation-as-core-of-strategic-resilience-denying-russia-the-power-to-dictate-terms-through-war>.

207 [Charles à COURT REPINGTON], *Imperial Strategy. By the Military Correspondent of "The Times"*, London, John Murray, 1906, p. 56.

208 See above, note 118.

209 [REPINGTON], *Imperial Strategy*, p. 53.

revolution in the art of fighting battles».²¹⁰

It is also worth noting that the «demoralising effect» Henderson touched upon – that is the «moral disintegration»²¹¹ which sets in when coming under heavy fire, with quickly mounting losses and without being able to locate the enemy's position – in Schneider's theory is instrumental in explaining the paradox of a declining casualty rate. With men spread farther on the battlefield in order to cope with the increased lethality of firepower, the new formations were liable to «lose the moral feeling of physical support in battle derived from the presence of another soldier». Therefore, the waning of the moral resilience retained by the old and thicker formations, once coupled with a less efficient exercise of the command and control capabilities on the part of the officers, entailed that soldiers were «unable to maintain the same level of attrition to sustain the intensity of the engagement».²¹² Hence the decline of casualty rates.

Henderson, moreover, went one step further and discerned what such a revolution meant for the attacker and specifically for the British infantry: «Yet the phenomena of the South African conflict permit no doubt whatever that the revolution is an accomplished fact [...] The nature of the revolution may be stated in a few words: 1. Infantry, attacking over open ground, must move in successive lines of skirmishers extended at wide intervals».²¹³ Actually, the close order formations – he noticed – had become obsolete even before the war: «our ordinary formations, previous to the war, were almost identically the same as those of other armies; but that our officers, thanks to the experience of the Tirah campaign, and to a very general instinct in favour of less rigid methods, recognised, before even a shot was fired, that what they had practised in peace was utterly unsuited to the Mauser-swept battlefield».²¹⁴

210 HENDERSON, *Science of War*, p. 371.

211 Lieut.-Colonel LINDENAU, «What has the Boer War to Teach Us, as Regards Infantry Attack?», in *The RUSI Journal*, 47:299, 1903, p. 324.

212 SCHNEIDER, «Empty Battlefield», p. 44.

213 HENDERSON, *Science of War*, pp. 371-372.

214 *Ibid.*, p. 372. Howard Bales differed to some extent from the significance of the lessons drawn from the Russo-Turkish War: while conceding that the conflict «not only modified attitudes towards French and German offensive doctrines but drew widespread attention to the question of guns and entrenchments», still, due to the manifold and grave shortcomings of the Russians, «it was easy [therefore] to regard Plevna as an aberration; significant, but rather as an indication of what to avoid than of what was likely to occur in a major war»; see Howard

Considering that Henderson's thought had initially preached «the advantages of deep attack formations and decisive waves of of infantry lines», Jay Luvaas surmised that, prior to the decisive shift impressed by the experience of the Boer War, a more thorough scrutiny of the Russo-Turkish War and the campaigns on the North-West Frontier «most certainly [...] caused him to modify earlier convictions».²¹⁵

If so, such a modification must have occurred at a much later stage:²¹⁶ as late as 1893, in revisiting once again the battle of Spichenen in a lecture delivered to the Irish Military Society, Henderson had declared that «despite the changes that modern improvements have made in tactics, I believe that general principles still hold good, although long-ranging and quick-loading firearms have rendered modifications necessary». Contextually, he had emphasised the necessity of «training all ranks to recognise the importance of maintaining tactical cohesion of the battalion» and, after observing that the secret of success in battle was still the same – namely, «the application of superior force at the decisive point» – he had come to the conclusion that «whether that superior force consists [...] in the number of bayonets, or as now, in the number of bullets, the method of assembling that force and of giving it its maximum effect do not materially differ». Therefore, just like at the time of the Peninsula War, Henderson had suggested that the forces employed in the attack were to be «very carefully drawn up in great depth, disposed so as to strike, from the very outset, an uninterrupted succession of heavy blows».²¹⁷

BAILES, "Technology and Tactics in the British Army, 1866-1900", in Ronald HAYCOCK, Keith WILSON (Ed.), *Men, Machines, and War*, Waterloo, Wilfried Laurier University Press, 1988, pp. 30, 33. This may help explain it is difficult to discern the influence of the Russo-Turkish War on the evolution of Henderson's thinking.

215 JAY LUVAAS, *The Education of an Army. British Military Thought, 1815-1940*, London, Cassell, pp. 236-237.

216 SPEARS in ID., *Victorian Army*, p. 250, logically came to the same conclusion, observing that «by the early 1890s, he still maintained that the role of skirmishers was to cover the advance of successive lines of infantry, which, 'moving shoulder to shoulder, was to pass through the firing line and carry the position with the bayonet'». Similarly, Luvaas had already recognised that «in the early nineties he was "firmly convinced" that "the attack of a large force upon a single point, whether a stroke or counter-stroke, is still the crowning act of battle"»; see ID., *Education of an Army*, p. 234.

217 HENDERSON, "The Offensive Tactics of Infantry", in *United Service Magazine*, n. 7, April-September 1893, p. 953.

The corollary was pretty old-fashioned: «skill in handling troops in close order, rapid changes of formation, and readiness in manoeuvring in mass, are all qualities which come into play on the battlefield, not only against savage enemies and in night attacks, but under ordinary circumstances».²¹⁸

It is quite relevant that Henderson cared to specify that close order formations were of enduring relevance not only on the colonial battlefield, but also under the normal circumstances of European warfare. Indeed, he acknowledged the existence of a previous tactical revolution which had taken place between 1860 and 1870 and «was produced by exactly the same causes of the present», that is the improvement of small arms with the advent of breech-loading rifles.²¹⁹ En passant, besides being engendered by the same causes, this first revolution had led to the same consequences: an increased weapon lethality and a more pressing need to resort to open order formations under enemy fire.

Still, regardless of the fact that it was conventional warfare that eventually caught up with the colonial battlefield, it seems reasonable to conclude that even in Henderson's case the experience of colonial warfare had some bearing on the way in which he thought about European warfare. After all, his only experience on the battlefield had been gained in a small war, the Egyptian Campaign of 1882, commanding a company at Kassassin and then at the battle of Tel-el-Kebir.²²⁰ The very mention by Henderson of close order formations in the execution of night attacks does not appear to be fortuitous, given that the assault to the Egyptian earthworks at Tel-el-Kebir had been preceded by a memorable night march in which the entire Army Corps had «marched in lines of half-battalion columns».²²¹

Henderson was not a conservative military thinker, at the time of the Boer War he was «still searching for ways to improve tactics and training».²²² It is

²¹⁸ *Ibid.*, p. 954.

²¹⁹ HENDERSON, *Science of War*, p. 372.

²²⁰ *Ibid.*, p. xvi; LUYAAS, *Education of an Army*, p. 218.

²²¹ William BUTLER, *An Autobiography*, London, Constable, and Company, 1911, p. 229. Mike Snook observed that Wolseley's successful night march at Tel-el-Kebir «seems to have started a fashion for such operations», which the British commanders in South Africa – say Methuen at Magersfontein – tried to emulate with far less measure of success; see SNOOK, *Into the Jaws*, p. 351.

²²² LUYAAS, *Education of an Army*, p. 237.

pretty evident that, for him, the scrutiny of colonial campaigns did not equate to being exposed to an outmoded form of war, one on which battlefields tactics and rules obsolete by European standards still held sway. Quite the opposite, Henderson vindicated the experience of British small wars as fertile and of definite relevance to modern warfare: «[Great Britain's] wars were numerous, and though limited in scope, they had made their soldiers practically acquainted with the power of the latest armaments». ²²³ If the Egyptian Campaign had provided an opportunity to experiment with «shrapnel and the breechloader» – and, we may add, had shown the enduring usefulness of close order formations – «in the Tirah campaign of 1897-98 a number of mountaineers had found means to provide themselves with the same pattern of repeating small-bore as the British infantry [...] there was thus no lack of the best evidence as to the phenomena of the modern battlefield». It was only the lack of a «proper machinery», one supposed to elaborate «from the data at disposal a far sounder theory of tactics», that had prevented the British Army from realising already before the Boer War that the days of serried infantry formations were over. ²²⁴

Together with the unavoidable necessity of adopting skirmishing lines deployed at wide intervals, Henderson inferred one last lesson from the experience of the Boer War: that «the best cover which the infantry has found has been given by the accurate fire and the fine tactics of the artillery». ²²⁵ Once again, these conclusions converged with those of Callwell who, as an artilleryman and a

²²³ HENDERSON, *Science of War*, p. 418. Howard Bailes already came to the same conclusion by pointing out that «in retrospect, Henderson argued that Britain's colonial wars had provided the basis for a more sound theory of tactics than 'that which had been built up by the German General Staff'». However, defining Henderson, as Bailes does, as belonging to the "imperial school" risks to be misleading despite the author's caveat that the different schools of thought within the army were not separated by rigid dividing-lines. Henderson's work was overwhelmingly focused on continental warfare; the very significance he attached to the teachings of the American Civil War laid in the fact that the painful learning curve experienced by the American citizen armies bore significant similarities to the volunteer force with which Great Britain would have to face the next continental war. However, in accordance with the imperial school, he believed that the experience gained by the British Army on colonial battlefields, far from being misleading or outright counterproductive, could help to better prepare the army for the conditions of a future European war. See, BAILES, "Patterns of Thought", pp. 30, 40; Colonel G. F. R. HENDERSON, *The Civil War. A Soldier's View. Edited by Jay Luvaas*, Chicago, The University of Chicago Press, 1958, p. 170.

²²⁴ *Ibid.*, p. 418.

²²⁵ [HENDERSON], *War in South Africa*, p. 274.

veteran of the Natal Field Force, had acquired a first-hand understanding on how artillery fire – and a more perfect coordination between artillery and infantry – had been fundamental in the victories reaped at Pieter's Hill and Bergendal. After a most disappointing debut at Colenso and Spioenkop, British shellfire had managed to suppress the fire of the Boer defenders and cover the advance of the infantry up to a few yards from the enemy positions.²²⁶

In this respect, Henderson observed that it was «due to the admirable discipline, splendid practice, and the fine tactics of the artillery» if, on many occasions, «frontal attack[s] which appeared absolute madness had succeeded» and strong kopjes had been stormed at bayonet's point. Ominously, he felt compelled to conclude that «under an incessant hail of shrapnel, bursting with invariable precision, and covering the length and depth of position, all but the most daring marksmen lose their nerve, and only thoroughly well-disciplined infantry will hold the ground».²²⁷

It is difficult to withstand the temptation to see in these words a glimpse of

226 CALLWELL, *Stray Recollections*, vol. 2, pp. 93-95: «We learn that General Barton's Fusilier Brigade is to cross the river by the bridge which is to be put down below where we are, and it is then to file down the gorge for a considerable distance before facing to the left, breasting the steep slopes, and, on reaching the top, attacking Pieter's Hill, which is apparently the extreme left of the Boer position [...] Every gun is speaking, naval gun and mountain gun, 5-inch and 15-pounder, and this time at least speaking to good purpose. The tide has flooded all the plateau land nearly as far as we can see, the front line of khaki tramping confidently almost into the lyddite bursts»; ANONYMOUS [C. E. CALLWELL], «On the Move with Buller», in *Blackwood's Edinburgh Magazine*, 168:1021, 1900, p. 770: «Bergendal was Pieter's Hill over again on a smaller scale, and almost equally disastrous for the Boers. The defenders were resolute and confident, well posted, well prepared. The assailants were determined to achieve decisive victory. The Rifle Brigade and the artillery shared the main honours of the day [...] It was a gruesome spectacle. Picture a rocky knoll strewn with great boulders and covering an area of perhaps two acres. On this the defenders had erected massive sangars, forming breastworks shoulder high, and had fitted in this artificial cover with the massive crags and rocks with characteristic skill and judgement. In these pits – for such they were – our adversaries probably believed that they were safe. But the very solidity of these improvised defences made them dangerous. On one, struck outside by a lyddite shell which had merely shivered the rocks without piercing the breastwork, lay heaped up three dead Boers. Altogether, scattered about upon this stony hummock were over a dozen dead, some with ghastly injuries, others slain by mere concussion, and all so begrimed with dust and lyddite fumes and powder smoke that they were almost indistinguishable from the rocks among which they had been stricken down. The prisoners – there were several taken – admitted that their experience had been a terrible one».

227 [HENDERSON] *War in South Africa*, p. 274.

the reality of the First World War. Furthermore, if we accept the line of thinking embraced by Spencer Jones, according to which the Boer War represented «the catalyst for change and reform in the British Army», one whose influence on the development of the tactical skills showed by the British in 1914 still awaits to be thoroughly investigated,²²⁸ the insights of Callwell and Henderson on the cooperation between infantry and artillery represent a major point of departure. Indeed, the absolute necessity for that cooperation to be brought to a higher degree of perfection, if the offence was to have any chance of prevailing over the defence, truly represents one of the core features of the future battlefield in the Great War.

Conclusions

In consideration of the ostensible backwardness of some tactical solutions typical of colonial operations, it would be easy to yield to the temptation – as Douglas Porch notably did²²⁹ – to brand small wars as a series of inherently regressive experiences bound to have a deleterious influence on the conduct of effective operations in the European theatres of war. After all, as we have previously shown, this idea is long in the making and is not entirely devoid of merit: it already reverberated in the positions of those continentalist theorists inclined to dismiss the experience of small wars, and continues to this day to serve as a useful tool for undermining the assumptions of the modern COIN doctrine. Significantly, the French experience remains fundamental to Porch in concluding that irregular operations have a generally negative impact on the ability of waging conventional wars just as, already in 1884, the continentalist C. B. Mayne «feared that the British army, like the French, could become too preoccupied with its own colonial experience, and that its thinking could suffer as a consequence».²³⁰ The square formation the British infantry often resorted to is a glaring example of this ostensible primitiveness: one definitely unsuited to modern warfare. After all, Callwell himself had referred to the square as a

228 Spencer JONES, *From Boer War to World War. Tactical Reform of the British Army, 1902-1914*, Norman, University of Oklahoma Press, 2012, p. 11.

229 Douglas PORCH, *Counterinsurgency. Exposing the Myths of the New Way of War*, Cambridge, Cambridge University Press, 2013, pp. 41-42, 46-48.

230 *Ibid.*, pp. 16-25, 26-28, 39-42. As for C. B. Mayne, see SPEARS, *Victorian Army*, p. 246.

formation «common enough in the old days in what was then regular warfare», but which had become «a formation peculiar to small wars».²³¹ In other words, the square had been relegated to the colonial battlefield because there was no more room for it under the conditions in which European wars were now being waged. Indeed, this simple realisation provided ample ammunition, as we saw, to detractors the likes of Cooper King.

The point is that imperial warriors had generally known better. As recognised by Sir Gerald Graham – the commander of the British squares at El Teb and Tamaï – the British Army existed «under very different conditions to those which apply to the vast forces of the Continental Powers»;²³² its operational and tactical imperatives, the peculiar employment (and deployment on the battlefield) of its infantry were shaped by its being an imperial policing force. As stressed by Edward M. Spears, «the late Victorian army had one overriding imperial mission, namely the defence of the North West Frontier against the perceived threat of Russian encroachment. This consumed not only the largest proportion of forces stationed overseas, but also shaped the distribution and organisation of the forces in India and required the provision of drafts on an annual basis from the army at home».²³³

As was hopefully shown in the present essay, the colonial infantry square was but a distant relative of the old square of Napoleonic ancestry. Its adoption was shaped by new technologies and dictated by modern needs: the features and constraints – above all logistic ones – peculiar to colonial campaigns. In a way, the square was an example of new wine in old casks: its limits may have been glaring, especially vis-à-vis the fire of magazine rifles typical of conventional warfare; but, as Callwell pointed out, «there seems to be no remedy for this».²³⁴ As early as 1884, the battle of Abu Kru had shown that even in a colonial setting resorting to the square could be dangerous when facing an enemy determined to rely on long-range shooting. The Tirah Campaign and the battlefields of

231 CALLWELL, *Small Wars*, p. 256.

232 Gerald GRAHAM, «Infantry Fire Tactics: Attack Formations and Squares», in *The RUSI Journal*, 30:133, 1886, p. 236.

233 SPEARS, *Victorian Army*, p. 274.

234 CALLWELL, *Small Wars*, p. 267.

South Africa had clearly demonstrated that the heyday of the square was over.²³⁵ The Boer War, with its conflation of modern war and colonial constraints, had proved once again how intractable the tactical quandaries of small wars had always been.

235 The recourse to the square by Lieutenant-Colonel Arthur W. V. Plunkett on the battlefield of Gumburu (Somaliland), on 17th April 1903, resulted in the total annihilation of the British contingent; in this specific circumstance, however, it seems reasonable to conclude that Plunkett's force was crushed by a traditional concentration of an overwhelmingly superior enemy determined to resort to hand-to-hand combat irrespective of the heavy losses inflicted by British fire. Indeed, in the subsequent battle of Daratoleh (22nd April) another British square successfully held out for over three hours against repeated attacks by the dervishes of the "Mad Mullah" Muhammad Ibn Abdallah ibn Hassan; see Lieutenant-Colonel H. MOYSE-BARTLETT, *The King's African Rifles. A Study in the Military History of East and Central Africa, 1890-1945*, Aldershot, Gale & Polden Ltd., 1956, pp. 178-183.

Large cycles of combat. K-waves of Russian infantry from the emer- gence of Muscovy to today

by VLADIMIR SHIROGOROV

The analytical models of war attract attention due to their tremendous practical importance. They produce a knowledge explaining victory and defeat. The cycles of war are the repeating patterns of confrontation that must be respected if they are trustworthy. Infantry is a primary phenomenon of war to research on its cycles. Six hundred and fifty years of Russian history have witnessed relentless warfare, of which Russian infantry has been one of the main entities. If the cycles of war exist, the history of Russian infantry reveals and explains them.

KEYWORDS: NATURE OF WAR, CHARACTER OF WAR, OFFENCE-DEFENCE BALANCE, MILITARY TRANSFORMATION, INFANTRY WARFARE.

Periodisation of the historical process is an important function of history as a discipline. First, it reveals the critical changes that are visible when they differentiate one period from another. Second, it shapes the scattered character of events into a distinct line of development. A cyclical vision of history pays to both vocations. It observes the return of transformation to the starting point in some meaningful sense to repeat its pattern again. The repeating patterns of transformation provide for comparing one period with another, searching for missed components and making predictions.

Among the analytical models of the cyclical vision proposed in the 20th century, the long waves of Nikolay Kondratieff, or K-waves, became seminal due to their instrumental character for scholarly and practical economy.¹ The best apologetics of K-waves belongs to Joseph Schumpeter² and the criticism is

¹ КОНДРАТЬЕВ, *Большие циклы конъюнктуры*.

² SCHUMPETER, *Business Cycles*.

abundant.³ In 2016, Giuseppe della Torre presented a historiographical review of recent studies applying Kondratieff's and similar cyclical concepts to studying war.⁴ He demonstrates that they are focused not on war but on command of the long economic waves over warfare in parallel with the phases of international relations. However, war is a major phenomenon, and its transformation must have its inherent dynamics apart from the external direction. Does war have its long cycles similar to the K-waves? What are their vigour and structure and what causes their rotation?

Jeremy Black emphasises the importance of recovering the history of infantry "both for that of war and that of the military." Chronology, the focus of the current essay, is "an essential approach" for him alongside the "geographical and functional accounts" that provide the facts. He forewarns against contrasting infantry's "engagement with the future" with "sway of the past."⁵ The cyclical approach might be right because it consists of the multiple repeating "futures" and "pasts" with one and the same methodological perspective that must be established.

PART 1. METHODOLOGY FOR INFANTRY'S LARGE CYCLES.

Infantry and the nature of war.

Infantry is the quintessence of warfare. While other kinds of troops have been losing their direct contact with the enemy, infantry has not lost its. Despite being equipped with longer-range and extra-lethal weapons, infantry still seeks close-quarter fights. The clash of trained, motivated, and well-led infantrymen is often concluded with real war to the knife. Fury of the fighters remains a leading factor of victory and defeat in infantry combat.

Infantry's particular relationship with combat is bound to its composition. Since infantry started returning to the battlefield as a decisive factor in the 14th

3 See pro and contra in: BARNETT, *Kondratiev and the Dynamics of Economic Development*; BOSSERELLE, *Le Cycle Kondratieff*; GRININ, DEVEZAS, and KOROTAYEV, *Kondratieff Waves*; SLOMOU, *Phases of Economic Growth*.

4 TORRE, "Kondratieff Waves and War Cycles."

5 BLACK, *Infantry*, Ch.1



Fig. 1. Knife combat in the taking of Kazan in 1552 (left) and a body camera snapshot of hand-to-hand fighting in Donbass (right) in 2024. The left picture, *The Russian Illustrated Anthological Chronicle, the Tsardom Book*, СИН-149, Л. 614 Об., runivers.ru. The right picture, www.youtube.com/watch?v=VH_L9vqedYg, 6:00–9:20

century, it has been a counter-elite force. While other kinds of troops belong to the upper classes, infantry turns increasingly plebeian. Infantry's capability depends on the efficiency of the rulers to mobilise and lead the armed people.

The technical progress has turned the weapons' characteristics into the decisive factors for artillery, aviation, and navy, obscuring the skills and prowess of the soldiers. Their weapons are the hitting subsidiaries of the large systems. In infantry combat, operating the weapons still belongs to the soldier who executes the shot or thrust and bears the consequences. Infantry does not have the weapon to organise a unit around it. There is cooperation between the soldiers professing different arms; however, it is not a technologically based procedure but a trained skill and function of the leader. Lack of technological determination and dependence on the human factors result in the high importance of fighting chance for infantry combat.

The infantry's combat is an uncompromising expression of Karl von Clause-

witz's trinity of war – passion of the people, efficiency of the government, and skill and luck of the commanders.⁶ Infantry is a most natural creature of war and an entity of warfare that is the technique to wage war.⁷ Clausewitz researched war and warfare, keeping infantry combat in his mind. He wrote his **On War** in the period when it dominated warfare at the dawn of the industrial revolution that unleashed the technologies curbing it. However, the intrusion of technologies transforms neither the nature of war nor the essence of infantry.

Infantry and external factors of war.

There are many ideas placing war in a subordinate position to different phenomena of seemingly larger scale. They might be divided into four principal concepts professing domination of technology, economy, politics, and culture over warfare. All of them observe the cyclical character of military development.

Technology's guide to war.

It is a belief as old as the first petroglyphs of fighting, and it constitutes the most plausible explanation of victory and defeat in combat.⁸ It also has unmatched practical influence, promoting relentless investments in weaponry. Since **Anti-Dühring** of Frederick Engels and Hans Delbrück's **History of the Art of War**⁹, the concept of the gunpowder revolution became the seminal research model for the studies of long-term military development. The historians and military analysts become obsessed with finding some changes in weaponry that allegedly overturn warfare.

Martin van Creveld declares that "war is completely permeated by technology and governed by it." He admits that not only tactics but also "operations, strategy, logistics, intelligence, "C3" (command, control, communication), and organisation ... are affected by weapons ... as well as by technology in its ab-

6 CLAUSEWITZ, *On War*, 30–31

7 ECHEVARRIA, *Clausewitz and Contemporary War*, 56–57

8 BLACK, *War and Technology*, Introduction.

9 ENGELS, Frederick. *Anti-Dühring*; DELBRÜCK, *History of the Art of War*.



Fig. 2. Frederick Engels (left) authored the concept of the technological command of warfare, while Vladimir Lenin, his successor (right), subordinated it to the policy of the government and social classes. The left picture, *Революционеры. Фридрих Энгельс. Страницы жизни. 1820–1895*, 1983, web-blog, <https://maysuryan.livejournal.com>. The right picture, public domain, from Wikimedia Commons.

stract sense.”¹⁰ Interaction of war with technologies is both abrupt and plain. It is abrupt because some types of weapons, on arriving, “changed everything, not simply military relationships but politics itself.” Robert O’Connell finds two doubtless arrivals of this kind: gunpowder weapons in the 15th century and nuclear weapons in the middle of the 20th century.¹¹

At the same time, the transformation of warfare was plain because “the process of accommodation [to the new weapons] remained slow” and warriors “persisted in behaviour”. It is also cyclical since accommodation of the new weapons consists of their introduction by the advanced party and response by its adversary, followed by rapid expansion of the new weapons.¹² It, first, upset and, then, set back the balance of fighting capability between the warring parties.

Clifford Rogers and Andrew Krepinevich propose a popular vision of the se-

10 VAN CREVELD, *Technology and War*, Introduction.

11 O’CONNELL, *Of Arms and Men*, 7

12 O’CONNELL, *Of Arms and Men*, 7

ries of the “military revolutions” caused by the introduction of the new weapons with “long periods of gradual, incremental evolution punctuated by episodes of short, sharp, radical change.”¹³ It affects the balance between offence and defence, or “how war is fought”. It also changes the weight of “the fundamental components of military power.” Thus, the victories and defeats are caused by the success or failure of the nations and armies to make the “adjustments necessary to exploit a new weapon.”¹⁴ The weapon technologies create the organisational and operational patterns that shape the military epochs with different characters of war and conduct of warfare.¹⁵

Economy's dominance over war.

Grounding the social relations in the economic foundation, Marxism is the principal school of thought treating war as the creature of the production forces. Friedrich Engels advised that “nothing depends more on economic conditions than precisely the composition, organisation, armament, strategy and tactics of an army.”¹⁶ Nikolay Kondratieff was not a Marxist hardliner; nevertheless, he treated war as a derivation of the economic foundation. He believed that the half-century economic cycles are produced by the alternating change of the material productive basis of the economy due to its wear and appearance of the new technologies. The material base of warfare changes simultaneously with the general material base of society. The revolutionary fighting technologies are developed outside of the military sector to be adopted for military use.

Joseph Schumpeter supplemented Kondratieff's causation of the long waves with an idea of innovations clustering in time.¹⁷ It has won popularity since it corresponds with the innovation-driven growth of the leading Western economies since the 1970s.¹⁸ The revolution in military affairs (RMA), spreading simultaneously, links the transformation of warfare to the innovation upturn of

13 ROGERS, “‘Military Revolutions’ and ‘Revolutions in Military Affairs’,” 21–22

14 ROGERS, “‘Military Revolutions’ and ‘Revolutions in Military Affairs’,” 25, 28, 32

15 KREPINEVICH, “Cavalry to Computer,” through the paper.

16 ENGELS, *Anti-Dühring*, 487

17 ROSENBERG, *Exploring the Black Box*, 66

18 KLEINKNECHT and VAN DER PANNE, “Who Was Right?” 119

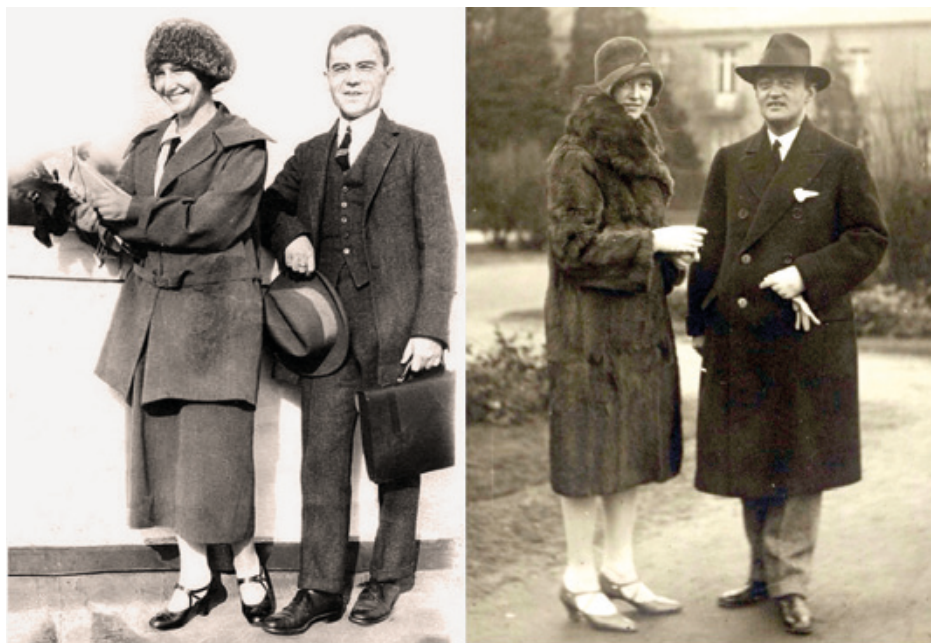


Fig. 3. Both Nikolay Kondratieff (left with his wife) and Joseph Schumpeter (right with his wife) came to their revelations overwhelmed by the collapse of their native Russian and Austrian empires, respectively, and hardened their concepts studying the USA. Public domain, Wikimedia Commons

the economy.¹⁹ Schumpeter authored the K-waves-based periodisation of the modern epoch. He took into account the military factors, however, as disturbers and not dynamics, which belong for him to the economy.²⁰

Joshua Goldstein defines war as a separate phase of a long economic wave consisting of overlapping “expansion, war, stagnation and rebirth.”²¹ Goldstein discloses a correlation between the phases of the long waves and military activity. The “upswing periods are characterised ... by bigger wars – six to twenty times bigger as indicated by battle fatalities.”²² He examines Schumpeter’s theory of innovations to explain the changing balance of military power and “the

19 FISSEL, “From the Gunpowder Age Military Revolution,” 314–15

20 See, for example, analysis of the “First Kondratieff” in: SCHUMPETER, *Business Cycles*, V.1 255–57

21 GOLDSTEIN, “The Predictive Power of Long Wave Theory,” 137–39

22 GOLDSTEIN, “Kondratieff Waves as War Cycles,” 422–25

cyclical character of great power war in the core of the world-system.”²³

Immanuel Wallerstein, the most followed theorist of the world systems, shares Goldstein’s vision of major war on the upswing of the long wave.²⁴ It is “a massive, land-centred, highly destructive, thirty-year-long intermittent struggle involving all the major military powers of the time.” Despite heavy fighting, the victory is never military. It requires “to outcompete all others in all three major economic spheres: agro-industrial production, commerce, and finance.”²⁵ Warfare in the world systems looks like a mere projection of the economic competition.

Political subordination of war.

Karl von Clausewitz is often misinterpreted as a pioneer of this approach since he allegedly subordinated war to politics.²⁶ However, unlike Michael Handel and Beatrice Heuser, referred to above, other scholars interpret the headline of **On War**’s Paragraph 28 as “War Is Merely the Continuation of Policy by Other Means.”²⁷ They conclude that Clausewitz discussed not war in general as state-organised violence and not politics in general as a contest over power. He talked about policy as decisions and actions using power to achieve a determined objective and war as a military part of them. Jeremy Black, Colin Grey, and Lawrence Freedman refer to policy and not politics in this context.²⁸

Vladimir Lenin and Mao Zedong, two principal practitioners of the Marxist theory of warfare, stressed the primacy of policy over war as the policy of the particular states and their classes in the current moment.²⁹ “War is politics, and war itself is a political action... But war has its own particular characteristics,

23 GOLDSTEIN, “Kondratieff Waves as War Cycles,” 411

24 WALLERSTEIN, *The Politics of the World-Economy*, 41

25 WALLERSTEIN, *Historical Capitalism*, 58–59

26 HANDEL, *Masters of War*, 26, 28, etc.; HEUSER, “Introduction,” xv

27 CLAUSEWITZ, *On War*, 27–29

28 BLACK, *Military Strategy*, Introduction; GRAY, *Fighting Talk*, Introduction; FREEDMAN, *Strategy*, 86. See also Anders Palmgren’s interpretation of the German **Politik** in: PALMGREN, “Visions of Strategy,” 22–25

29 ЛЕНИН, *О войне, армии и военной науке*, 240



Fig. 4. The greatest theorist of war, Karl von Clausewitz (left), and one of its greatest practitioners, Mao Zedong (right), found independently that war has its intrinsic law and it is not a subsidiary of politics. A portrait by Johann Jakob Kirchhoff, 1825, and a postcard by an anonymous artist, China, respectively, in the public domain, Wikicommons.

and in this sense, it cannot be equated with politics in general.”³⁰

Clausewitz explained that as soon as war starts, it “suspends... the intercourse of governments and peoples”, which is politics for him, and “replaces it by a wholly different condition, ruled by no law but its own.”³¹ Clausewitz’s war has its particular and intrinsic “law.” If subordination of war to politics exists, it mustn’t be justified by his genius but must be proved.

The discipline of international relations advances the layout of their cycles and argues for warfare’s subordination to them. For Arnold Toynbee, there were five “war and peace cycles,” commanding the “general wars” over world hegemony, that had a length from one hundred to one hundred and twenty years, “equal to the sum of a couple of Kondratieff cycles,”³² Different concepts re-

30 MAO TSE-TUNG, *Selected Works* V. 2, 152–53

31 CLAUSEWITZ, *On War*, 252

32 TOYNBEE, *A Study of History* V.9, 255

volve around Toynbee's seminal ideas.³³

George Modelski, Patrick Morgan, and William Thompson have proposed periodisation of the global political system as a sequence of dominance of particular European "global powers" divided by the "world war."³⁴ While Toynbee emphasised population, industry, and the political organisation of the great continental powers, Modelski, Morgan, and Thompson stress the specific capabilities, like navy, trade, and finances of the maritime states. For both concepts, war is a gutless dependent of the contenders' potential, and warfare is a derivative of its political use.

War's subordination to culture.

The strategic culture is the freshest concept of external dominance over war. According to Lawrence Sondhaus' observation of the literature, it looks like a guide to warfare by national mentality, patterns of behaviour, and perception of violence and security.³⁵ Such fundamental components of warfare as the military doctrine and organisation, fighting morale, and command patterns are its creatures.³⁶ Thus, military evolution looks totally integrated into the cultural compound.

In sum, all concepts of the external dominance over war tend to discuss it abstracting from fighting. Combat is not analysed as a process that has some intrinsic dynamics on its own. At the same time, scholars established some important features of warfare. Three of them are pivotal for the cyclical vision on it. First, it is Rogers' "short, sharp, radical" technological changes overturning the offence-defence balance. Second, it is Schumpeter's concentration of innovations on the upswing of the long wave. Third, it is Goldstein's extreme intensity of warfare on the upswing.

33 See an account of them in: LEVY, "Theories of General War,"

34 MODELSKI, "The Long Cycle of Global Politics," 217, 226; MODELSKI and MORGAN, "Understanding Global War," 395; THOMPSON, "Polarity, the Long Cycle," 592

35 SONDHAUS, *Strategic Culture*, 124–27.

36 WONG and GERRAS, "Culture and Military Organizations," 17–18.

Table 1. Long waves of warfare in literature

No	Krepinevich	Schumpeter	Goldstein	Tovneeb	Modelski	Wright
1	The infantry revolution, the first half of the 15 th c.					
2	The artillery revolution, second half of the 15 th c.					
3	The revolution of sail and shot, and the fortress revolution, 16 th c.		1 st Long War Cycle, 1497–1528; 2 nd Long War Cycle, 1530–1556; 3 rd Long War Cycle, 1558–1604	Overture, 1494–1568; 1 st Regular Cycle, 1568	World power Portugal, 1494–1580; World power Netherlands, 1579 –	
4 and 5	The revolution of the linear tactic of infantry, and the military revolution, the 17 th c.		4 th Long War Cycle, 1605–1648; 5 th Long War Cycle, 1649–1713	–1672 2 nd Regular Cycle, 1672	– 1678	
6	Napoleonic revolution, The end of the 18 th –beginning of the 19 th c.	The First Kondratieff from 1787	6 th Long War Cycle 1714–1763 7 th Long War Cycle 1764–1815	–1792; 3 rd Regular Cycle, 1792	World power Great Britain (first), 1678–1792	1 st 50-year-long period, 1701– 2 nd 50-year-long period, 1756 –
7 and 8	Land warfare revolution and naval revolution, The middle of the 19 th –the second decade of the 20 th cc.	to 1842; The Second Kondratieff from 1843 to 1913	8 th Long War Cycle, 1816–1871 9 th Long War Cycle, 1872–1918	–1914	World power Great Britain (second), 1792–1914	3 rd 50-year-long period, 1803– 4 th 50-year-long period, 1854–
9	Interwar revolution, the 1920s – 1930s	The Third Kondratieff from 1913	10 th Long War Cycle 1919–	4 th cycle 1914–	World power USA, 1914–	5 th 50-year-long period, 1914–
10	Nuclear revolution, the middle of the 20 th c. onward					

INTRINSIC DYNAMICS OF WAR.

The character of war and long waves of combat.

Stephen Morillo, Jeremy Black, and Paul Lococo discuss war as a self-sufficient phenomenon to which all of the external factors are not determinants but the contexts. War is not a dependent of politics, economy, and culture but a major phenomenon interacting with them on equal terms.³⁷

Philip Quincy Wright revealed that wars tend to unfold by approximately fifty-year-long cycles. Wright's cycles of warfare do not repeat the technological, economic, or political long waves. The military characteristics define them, like the concentration of fighting in their starting phase expressed in magnitude, territorial spread, diversity, and combat losses.³⁸

Wright found the economic, technological, political and social-cultural explanations for the concentration of fighting supportive, but he did not consider

37 MORILLO, BLACK, and LOCOCO, *War in World History* V. 1, ix–x

38 WRIGHT, *A Study of War*, 227–28, 253

them to be its causation. He reasoned concentration by the character of war directing the defence-offence balance.³⁹ Wright's combination of the character of war and offence-defence balance is a strong analytical model since it addresses the nature of war. His model deals with war as a self-sufficient entity and not an adjunct to technology, economy and international relations.

The elements of the Clausewitzian trinity of war – passion of the people, efficiency of the government, and skill and luck of the commanders – rotate, gaining and losing primacy. They interact with technology, strategy, conditions of the theatre, and properties of the enemy. These two processes create the character of war. It defines the military epochs and divides them.

Offence and defence in the nature of war.

Speculating on the nature of war, Clausewitz discussed not only its trinity but also the two fundamental kinds of action in warfare, offence (attack) and defence. For him, war was not just “a function of the trinities”⁴⁰ because “the whole of war” is dominated by “the difference between attack and defence.”⁴¹ The nature of war is the dynamic interaction of the trinity's elements in the same way as it is the counteraction of offence and defence over “the object both seek to achieve: the decision.”⁴²

Robert Jervis turns about the view on warfare as a dependent of international relations. He demonstrates how the balance of offence and defence directs their most important aspects.⁴³ The offence-defence balance is empirical evidence. Longer wars with many attrition contests and indecisive battles characterise the epoch of the defence advantage. The epoch of the offence advantage features shorter wars dominated by decisive battles.⁴⁴

Unlike many characteristics of warfare, the offence-defence balance is not only an analytical instrument; it is a factor that determines the course and out-

39 WRIGHT, *A Study of War*, 293–303

40 HEUSER, “Introduction,” xxvii

41 CLAUSEWITZ, *On War*, 36

42 CLAUSEWITZ, *On War*, 24

43 JERVIS, “Cooperation under the Security Dilemma,” 187, 190

44 FEARON, “The Offense-Defense Balance,” 4

come of combat. Counteraction of offence and defence shapes the military campaigns and dominates the transformation of warfare. The external factors influence warfare through counteraction of offence and defence. The shift of the offence-defence balance expresses the dynamics of warfare.

The moral determinant of combat.

Jeremy Black advises that war involves “a constant – the willingness of organised groups to kill and, in particular, to risk death.”⁴⁵ Steven Rosen emphasises endurance of the troops as a leading factor of the military power.⁴⁶ “Cohesion has always played a crucial role in determining which side prevails in battle.” Jasen Castillo explains it as the capacity of a country’s armed forces to fight with determination and flexibility on the battlefield “in pursuit of their country’s objectives” and “resist disintegration from within their ranks when a country faces the prospect of defeat.”⁴⁷

Being the immediate causation of victory and defeat in combat, the morale of the troops, expressed in their cohesion and endurance, addresses the same fundamental nature of war as the defence-offence balance.

Launchpad of military transformation.

The character of war, offence-defence balance, and morale of the troops are not predictable. They tell in warfare. Entering combat on any of its levels – individual fight, tactical engagement, operation, and strategic confrontation – the army and nation run into the opponent that has its capabilities, objectives and will to fight. In the following antagonistic interaction, the sides must press their advantages according to the pre-war doctrines and improvise both using initiative and responding to the enemy’s moves. It is the process in which military transformation draws its breath.

Military transformation emerges immediately in combat. Walter Runciman insists that “the prerequisite for [military] change is that mutant practices must

45 BLACK, *War and the New Disorder*, 163–64

46 ROSEN, “War Power and Willingness to Suffer,” 167–69, 175

47 CASTILLO, *Endurance and War*, 17–19

appear.”⁴⁸ They might be triggered by a variety of factors, but their true authors are the troops and commanders. In the course of fighting, the “mutant practices” are sorted out for winning solutions and waste.

Michael Mann sees societies as “multiple overlapping and intersecting sociospatial networks of power,” which include four sources of “ideological, economic, military, and political (IEMP) relationships.”⁴⁹ The battlefield “mutant practices” turn into military transformation only if they alter other “networks of power.” If other networks reject them, they die out. Change of Mann’s “sources of power” is uneven. The periods of fast mutation alternate with the periods of relative stability. It creates conditions for cyclical development.

Thus, the cyclical construct of the evolution of infantry as a warfare entity must follow the transformation of the character of war. It must be grounded in the emergence and implementation of the “mutant practices” changing the offence-defence balance. It also requires correlation with morale of the troops as the key factor of combat performance. The factors making up the character of war and launching the “mutant practices” must be taken into account. Political grip on their implementation must be attended to.

PART 2. THE MODELS FOR THE K-WAVES OF RUSSIAN INFANTRY.

1. Rise of the communal militias, from the 1370s to the mid-1420s.

Military evolution. The pre-Mongolian infantry of Rus revived in Muscovy in the 1370s as the militia of the urban and rural communities armed with a long spear and sword or battle axe and equipped with mail and helmet. The traditional Rus infantry tactics resurged with its massive spear and shield formations. The infantry array regained its function as the anchor on the battlefield.

48 RUNCIMAN, *The Theory of Cultural and Social Selection*, 144

49 MANN, *The Sources of Social Power* V.1, 1–2

Economics. The “Muscovite Mesopotamia”⁵⁰ between the rivers Oka and Volga was colonised by the migrants from the south-western Rus devastated by the Mongols. The urban craftsmen restored the pre-Mongolian metallurgical technologies. Muscovy became an important staple depot of the transit commerce from Central Asia, India, and China to Europe.

Domestic and foreign political issues. The princely dynastic authority subjugated the aristocracy in domestic politics. Muscovy emerged as the dominant power over Northeastern Rus and moved to secession from the Golden Horde.

The offence-defence balance favoured defence by Muscovite infantry against its main opponents, the Golden Horde’s mounted bowmen and Lithuanian mailed cavalry. The tactical confidence resulted in operational efficiency. The Golden Horde’s invasion in 1380 and the Central Asian Emir Timur’s advance in 1395 were countered by marching head-to-head on them instead of the routine pattern of the fortress defence in the rear.

Passion of the people and morale of the troops. The Muscovite consciousness grew from belonging to a local principality into feeling of the Vladimir Grand Principality’s successor. Social cohesion strengthened the morale of the communal militia infantry.

Character and profile of the long wave. The standoff at Lubutsk with the Lithuanian ruler Olgierd in 1372 opened the ten-year-long upswing of Muscovite infantry’s capabilities, broken by the Golden Horde’s khan Tokhtamysh invasion in 1382. The twenty-five-year-long plateau of stability continued up to the war with Lithuania from 1406 to 1408, which turned to the downswing. The Muscovite army was not able to prevent Lithuanian subjugation of the principalities of Tver, Smolensk, and Ryazan in the 1410s and 1420s. In 1408, Emir Edigu, the Golden Horde’s warlord, devastated Muscovy while the Muscovite army did not dare to counter him in the field.

The first K-wave of Muscovite infantry established some important patterns. Intensive fighting of the first phase was based on implementation of the technological, tactical, and organisational changes that arrived before the cycle started.

The downswing resulted from the adversaries’ adaptation to Muscovite in-

50 LEDONNE, *The Grand Strategy of the Russian Empire*, 10

novations. Lithuania restored in its Western Rus the pre-Mongolian social and military structures, similar to those on which Muscovy's ascendance relied. The Golden Horde's successors turned to the operational surprise disrupting the Muscovite mobilisation.

However, on the same downswing, Muscovite infantry developed some "mutant practices" as a reaction to the enemies' advantage. They were operational – marching the large mass of communal militia infantry to the remote objectives by echelons through the thick forest of the Northeast European landscape and its shipping by the riverine waterways. Turning the innovations into the standard combat practice required the political and social changes which were out of the cycle.

2. The long-range operations, from the mid-1420s to the early 1480s.

In a substantial invariance of military and economics, *domestic and foreign political agenda* changed from dominance over the polities of Northeastern Rus to its consolidation into one state with unified sovereignty.

The dynastic war in Muscovy from 1425 to 1453 demonstrated the shift of the *offence-defence balance* in favour of offence by Muscovite infantry. The innovations that had arrived at the end of the previous cycle were used by the parties. After the civil war, the political and social reorganisation of Muscovy afforded their full-scale implementation. The long-range operations led to the occupation of the Novgorodian Republic and Tver and prevented the Golden Horde's successors – the Grand Horde and Kazan Khanate – from obstructing the Muscovite integration of Northeastern Rus.

Passion of the people and morale of the troops. The idea to bring together all parts of pre-Mongolian Rus into the Muscovite realm became popular. Morale of the troops was high in 1480 when Muscovy gained independence from the Grand Horde, which did not dare to attack the militia infantry prepared for the last stand at Kremenets near Moscow.

Character and profile of the long wave. The ability of civil war to distort the implementation of the innovative combat practices was an important lesson. It moved the upswing to the second phase of the cycle.

In the last decade of the cycle, the dismounted gentry cavalry appeared as

more capable infantry than the communal militia. It was tried in 1480 at the Ugra, but the necessity to field a huge mass of troops against the Grand Horde did not allow the change to be made.

3. *The dismounted gentry cavalry, from the late 1480s to the mid-1530s.*

Military evolution. During the 1480s and 1490s the Muscovite grand prince Ivan III allotted the new large group of the gentry with the service lands. Being the professional military, they were better equipped, faster summoned, and better trained fighters than the amateur communal militia. The commanders dismounted them and their fighting retainers for infantry combat. They composed the amphibious infantry that reduced the Kazan Khanate to submission in 1487. The same infantry took over the Lithuanian city of Smolensk in the three sieges from 1513 to 1514.

Economic innovations. The merger of the Novgorodian export trade with pelts, fur, agricultural and forestry products increased the treasure revenues. The equipment of the gentry cavalry was improved to a uniform standard. The Western experts were hired, and the materials, like copper and tin, and the arquebus barrels and locks, were imported for manufacturing guns and handguns.

Policy and politics. Muscovy remained committed to expansion over Lithuanian Rus and breaking the Kazan Khanate as its principal rival in Northwestern Eurasia. The authoritarian grip of the grand prince over the social estates and local communities strengthened.

The offence-defence balance. The introduction of the capable infantry of the dismounted gentry worked in favour of offence.

Passion of the people and morale of the troops. The vision emerged of Muscovy becoming the “Third Rome” due to *translatio imperii* from ancient Rome to Constantinople to Moscow. This idea belonged to the elites, while the prospects of the social lift determined the morale of the dismounted gentry.

Character and profile of the long wave. Since the clash with the Livonian Order from 1501 to 1502, the Muscovite capabilities were parried by the deployment of mercenary Czech and German infantry. The upswing finished, and the plateau continued to 1521, when the break of the Crimean troops to Moscow across the river Oka’s fortified position started the downswing. The

Muscovite infantry was able neither to deal with the revived Kazan Khanate in the expeditions of 1524 and 1530 nor to repel the Polish troops from the fortress of Starodub in 1535.

Muscovite infantry looked for solutions against the enemy advantage. The first arquebusier units, **pishchalniki**, were called up at Smolensk in 1513 as the selected urban militia. The wagon-fort was introduced as the principal field array, and construction of the earth-wooden field fortification, **ostrog**, was mastered to control the terrain at Kazan in 1524 and 1530. However, the complete reorganisation of infantry was needed to implement them.

4. The standing urban infantry, from the 1530s to the mid-1580s.

Military. Political disturbance during the first fifteen years of the new cycle postponed the military reforms. Tsar Ivan IV's coming of age in 1547 created the conditions for them. In the early 1550s the standing infantry, **streltsy**, was established with its well-ordered organisation, standard weapons, and rigorous training. The tactics of the wagon-fort and **ostrog** fortifications were implemented. At the same time, the new tactic of mixed array with cavalry was introduced as the offensive solution. It was first tried in combats at the river Bulak and the Arsk Forest at Kazan in 1552.

Economics. Muscovy started to feel the growing demand for agricultural and forestry goods in Northwestern Europe via the Baltic trade route.

Policy and politics. Muscovy challenged the Kazan Khanate over dominance in Northwest Eurasia and the Crimean Khanate over recolonization of the geopolitical Ukraine, a giant fertile hinterland in the south of Eastern Europe. At the same time, it advanced in Livonia to control the Baltic communications. Conflict between tsar power and the aristocratic clans determined the domestic politics.

The offence-defence balance favoured offence by Muscovite infantry. The major battle of Sudbishchi against the Crimean army in 1555 demonstrated that the new tactics deprived the nomadic cavalry of its traditional superiority in the forest-steppe. The introduction of light onboard artillery on the riverine craft and the rearmament of the landing troops with firearms provided an amphibious operational advantage. The conquest of the Astrakhan Khanate from 1554



Fig. 5. The taking of Serpeysk by the Muscovite dismounted cavalry in 1492. *The Russian Illustrated Anthological Chronicle, the Shumilov Volume*, Л. 480, runivers.ru.

to 1556, the taking of many Livonian towns, and the Lithuanian stronghold of Polotsk from the late 1550s to the early 1560s demonstrated an impressive upswing of Muscovite infantry's capabilities.

Passion of the people and morale of the troops. Declaring Muscovy to be the tsardom in 1547 had a tremendous impact on the self-consciousness of the mass population. It provided for intensive mobilisation of the resources for war. The troops' morale was supported by the new social cohesion of the standing infantry.

Character and profile of the long wave. Its first phase was lost for the implementation of the innovations, but they worked spectacularly in the twenty-year-long second phase. Muscovite infantry took the decisive part in repulsing the Ottoman expedition to Astrakhan in 1569 and the destruction of the Crimean army at Molodi in 1572. However, the upswing was followed by a downswing without any plateau. The domestic economic crisis and the mighty coalition of enemies broke Muscovite infantry in the late 1570s. The thrust of the Polish army to Pskov and the fall of Narva to the Swedish army in 1581 became the major defeats close to the strategic catastrophe.

The "mutant practices" to overcome the deficiencies of standing urban infantry emerged in the new Muscovite territories secured by the southward advance since the 1550s. The new class of the free military labour of colonising settlers or service cossacks spread over there. They were actively used by the Muscovite commanders. However, the conservatism of the Muscovite heartland prevented them from becoming the mainstay of the military organisation.

5. Infantry of the military settlers, from the mid-1580s to the mid-1630s.

Military. The military settlers were organised in fortress districts as regular troops, combining the service with familial cultivation of lands. All of them were either infantry or mounted infantry equipped with firearms.

Economics. Colonisation of the fertile black soil of the virgin forest-steppe for grain agriculture was a great success. The southern region of Muscovy, or the Muscovite Ukraine, was able to support large forces of the military settlers and the construction of fortresses and provide grain for export to Northwestern Europe, importing the advanced weapons and experts.



Fig. 6. *Cossack infantry in action in the Time of Troubles, 1604–1613.* A painting by Ernst-Johann Lissner, 1939, public domain, Wikimedia Commons.

Policy and politics. The period started with the heavy fifteen-year-long crisis of the Muscovite economy, society and state institutions that was followed by the fifteen years of the large-scale civil war, or the Time of Troubles, from the early 1600s to the late 1610s. The collapse of the Muscovite state resulted in the massive intervention of Sweden, Poland, and the Crimean Khanate targeting to partition and subjugate Muscovy.

The offence-defence balance shifted to defence by Muscovite infantry due to the rigid territorial division of Muscovy between the civil war parties and the general advantage of the interventionists. The defence of Kaluga and Tula by the “Muscovite Ukraine” party in 1606 and 1607, the defence of Moscow by the “Muscovite heartland” party from 1606 to 1611, and the defence of Smolensk against the Polish interventionists in 1609–1611 and the defence of Pskov against the Swedish interventionists in 1615 are the examples of the defensive commitment of the Muscovite infantry.

Passion of the people and morale of the troops. The Muscovite civil war was an extremely severe affair, and its parties, representing the Muscovite Ukraine and Muscovite heartland, fought with enthusiasm and will. The menace of the

total destruction of the Muscovite statehood by the interventionists stimulated their settlement. Hate to the interventionists dictated the high morale of the troops in the final stage of the Time of Trouble.

Long wave's character and profile. The crisis in the first fifteen years of the cycle hindered the implementation of the innovative combat practices. During the Time of Trouble, the Cossack infantry was used by the Muscovite Ukraine's rebels against the heartland's conservatives and then their alliance against the interventionists. It was the upswing. The downswing did not come; the last twenty years of the cycle were the plateau devoted to the adoption of the new military by the Muscovite political and social constitution.

The innovations that were incepted in this period were tactical. Since the Time of Trouble, the experiments took place to introduce the Dutch pike and shot tactics. However, the trauma of intervention prevented them from being widely implemented.

6. The standing troops of the Dutch pattern, from the mid-1630s to the late 1680s.

The military technological, organisational, and tactical changes. The military crisis in the early 1630s, the collapse of the expedition to Smolensk from 1632 to 1634, and the simultaneous devastating Crimean invasion attracted attention to the new tactics. From the mid-1630s to the mid-1650s the military settlers in the Muscovite Ukraine were reorganised into the "new formation troops" according to the Dutch model of the regular army. They were trained for the Dutch pike and shot tactics, corrected with the Muscovite native tactics such as the wagon-fort array and earth-wooden field fortifications.

The economic factors. Colonisation of the Muscovite forest-steppe created the economic conditions to reform Muscovite infantry.

The international policy and domestic politics. Southward expansion in the forest-steppe dominated the Muscovite agenda. In the domestic politics, the central government was strengthened by imposing on all of Muscovy the Muscovite Ukraine's administrative pattern of the fortress districts ruled by the dictatorial commandants.

The offence-defence balance favoured offence by Muscovite infantry. A series of the long-range offensive operations followed. Some of them turned out to be disasters, like the battles of Konotop in 1659 and Chudново in 1660 against the joint Polish and Crimean forces. Others became sound victories, like the battle of Hlukhiv in 1664 against the Polish army and the first battle of Chyhyryn in 1677 against the regional Ottoman army, while the second battle of Chyhyryn against the main Ottoman army in 1678 turned indecisive. Infantry obscured cavalry as the principal branch of arms.

Passion of the people and morale of the troops. Muscovite society adopted the ideology of the national mission for liberation of the Orthodox believers from the Polish Catholic oppression. Morale of the new formation troops was enhanced by their newborn **esprit de corps**.

The long wave's character and profile. The first twenty-year-long upswing witnessed the introduction of the military innovations accumulated at the end of the previous cycle. The following fifteen years were the plateau of their fruitful use. The last fifteen years continued the plateau, integrating them into the social fabric. The downswing did not come.

The innovations that became visible at the end of the cycle were mostly organisational but also tactical. Some troops of the military settlers were converted into full-time regular infantry. Their rigorous training provided them to switch from the cumbersome wagon-fort array to the agile pike and shot columns that they first demonstrated at Chyhyryn in 1677 and 1678 with the great effect. However, the moderate military reforms in the early 1680s were insufficient to implement the new practice widely.

7. Formation of the professional regular troops, from the late 1680s through the 1730s.

The technological, organisational, and tactical changes. The tactics of columns were adopted for the second Crimean expedition in 1689 while the troops were rearmed with flintlock muskets, bayonets, and hand grenades. The key Ottoman fortresses of Azov and Kazi Kermen were captured in the 1690s. In the 1700s, Russian infantry was converted into a totally professional force composed of the peasant serfs conscripted for twenty-five-year service. It adopted

the linear array of West European infantry. Sweden was defeated at Poltava in 1709, and the Polish-Lithuanian Commonwealth was wrestled from it. Following the Russian defeat at the river Prut in 1711 at the hands of the Ottomans, Russian infantry switched to hollow squares.

The economic factor of southward colonisation remained the engine of the military changes.

The international policy and domestic politics. The traditional aristocratic clans prioritising the southward advance grabbed the government in the 1730s. The Crimea and Ottoman Ukraine were invaded, and another portion of the Wild Field was secured for colonisation. In the domestic politics, absolutism was established by Peter I, well-ordered officialdom was introduced, and nobility was reorganised into a uniform officer class. The “Petrine revolution” broke the conservatism of Russian society.

The offence-defence balance was characterised by the sharp growth of the offensive advantage of Russian infantry. It was able to march hundreds of kilometres over the hostile territory under enemy attacks and effectively conduct a large battle or siege. The taking of Danzig in 1734, Bakhchisaray in 1736, Ochakov in 1737 and Chocim in 1739 were the exemplary feats of this kind.

Passion of the people and morale of the troops. The ideology of Russian greatness and its domination in Eastern Europe seized the Russian elites and spread over the mass population. Military morale was strong, and it was enhanced by multiple victories.

The long wave’s character and profile. The conservative plateau of the first fifteen years of the cycle changed to the steep upswing in the next twenty years and fruitful exploitation of the high fighting capabilities in the last twenty-year-long phase. The downswing did not come.

The innovations incepted at the end of the cycle were operational and mobilisational. The campaigns of the 1730s demonstrated that annexation of the East European geopolitical Ukraine as a whole from the Danube delta to the Caspian Sea depended on the mobilisational commitment. The proper national ideology was in need.



Fig. 7. The taking of the Ottoman fortifications of Perekop, the Crimean Peninsula, by Russian regular infantry in 1736. An engraving by an anonymous artist, the 18th c., public domain, Wikimedia Commons.

8. The first epoch of the professional regular troops, from the 1740s to the mid-1790s.

The military technological, organisational, and tactical changes. The effective fighting patterns of the previous cycle were adopted by the military doctrine from the 1740s to the early 1750s to be effectively used in the Seven Years' War from 1754 to 1763 and the wars against the Ottomans from 1768 to 1774 and from 1787 to 1792.

The economic factor. Integration of the East European geopolitical Ukraine into the Russian empire created tremendous momentum of the economic growth and aggrandisement for the social classes that promoted it.

The international policy and domestic politics. Southward expansionism was the principal direction of Russia's foreign policy. The Partitions of Poland accomplished the initial Muscovite concept of reunification of Rus. Domestic politics was reshaped by the thorough administrative reorganisation of the Russian Empire according to the ideals of the Enlightenment.

The offence-defence balance demonstrated the offensive advantage of Russian infantry. The campaigns in Germany and the Ottoman Empire witnessed unstoppable actions of the Russian bayonet columns that crashed the best-drilled Prussian army and stormed impregnable Ottoman strongholds.

Passion of the people and morale of the troops were extremely high. Russia boiled with economic growth, colonisation, social lift, and international greatness. The idea of the “Russian century” was born and adopted by the public opinion. The troops were inspired by the avalanche of invariable victories against all of the enemies.

The long wave's character and profile. The two plateau phases opened the cycle. The upswing came in the last twenty-year-long phase, when the synthesis of the imperial ideology and Enlightenment uplifted both mobilizational vigour of society and the government's efficiency to use the abundant resources that it obtained.

The sharp tactical innovations arrived. The chessboard array of the divisional and battalion squares was employed to round up the enemy by crossfire under the bayonet thrust. It was the first cycle when the military innovations were incepted and adopted in the same phase of the same cycle. It improved its fighting and political results but deprived the next cycle of the innovation reserve.

9. The second epoch of the professional regular troops, from the mid-1790s to the late 1850s.

The military technological, organisational, and tactical changes. The Napoleonic tactics and operational art proposed nothing new for the Russian practice. The novel mobilisational model of the mass conscripted army was rejected as incompatible with the Russian social constitution. Stagnation of the Russian military was cemented by the regulation of the 1830s. They were unable to adopt in a timely manner the new technologies of the industrial epoch, such as a rifled musket with a conical bullet, changing the combat array from the cohesive columns to the loose formations.

The economic factor. The industrial revolution turned out to be decisive for economic development. Russia did not catch up with the West European nations pioneering it.

The international policy and domestic politic. The cycle opened with defeats of the Napoleonic Wars and closed with defeats of the Crimean War. The final victory over Napoleonic France bore the illusion that the Russian military did not need the radical reforms.

The offence-defence balance favoured offence by Russian infantry up to the 1850s, when it was pushed to defence since its bayonet columns did not work against French and British superiority in shooting range and accuracy.

Passion of the people and morale of the troops were high during the Napoleonic Wars and the Crimean War. Between these extremities, the conservative mood prevailed in the public opinion, and the troops' morale was determined by their drill.

The long wave's character and profile. The first two phases of the cycle represented the plateau of the fighting capabilities. The final ten-year-long phase was an abrupt downswing. At the same time, it produced the reserve of the "mutant practices" that could energise the next cycle.

10. Formation of the mass conscripted army, 1853 to the late 1900s.

Military. The rifled muskets, conscripted service, and loose tactical formation, tried piecemeal at the end of the previous cycle, were implemented thoroughly and simultaneously.

Economics. The social, economic, and cultural Great Reform started capitalist industrialisation of Russia. The Russian economy boomed until the last ten years of the cycle, when it suffered the structural crisis.

Policy and politics. Russia opposed the German hegemony in Central Europe and advanced into Central Asia to counter the British penetration. In the 1990s Russia faced Japanese aggression in Manchuria. None of these conflicts was existential. The domestic politics witnessed increasing pressure of the liberal, revolutionary, and nationalistic ideas and groups on the autocratic imperial authorities, eroding the social consent.

The offence-defence balance favoured offence by the Russian infantry until it clashed with the modernised Japanese army from 1904 to 1907, when the offence-defence balance turned about in favour of defence.



Fig. 8. Russian conscripted infantry before attacking the Ottoman fortress of Plevna, Bulgaria, 1877. A painting by Pavel Vereshchagin, 19th c., public domain, Wikimedia Commons.

Passion of the people turned from the messianic ideas inside the country to reshuffling the social and political system. *Morale of the troops* was maintained by the class consciousness of the officer corps.

Long wave's character and profile. It was a wave with a massive introduction of the fighting innovations learnt at the end of the previous cycle.

The first twenty-year-long phase was the upswing of the fighting capability, and the second twenty-year-long phase was the plateau. The last fifteen-year-long phase was the downswing. The important innovations, like the machine gun, arrived, but they were neither recognised nor implemented.

11. The epoch of the mass conscripted army, from 1914 to the late 1960s.

Military. Devastating losses of WWI forced the building of the true conscripted infantry of the soldiers and officers called up from civil society. The new military technologies, like machine guns and tactics on the battlefields saturated with fire, were implemented.

Economics. During WWI and the following Civil War, the Russian economy was totally devastated. The industrial growth started in the early 1930s, was interrupted by WWII and resumed in the late 1950s when the huge efforts to achieve technological parity with the West brought their fruits.



Fig. 9. The first action of the long triumph, Soviet infantry at Khalkin-Gol, Mongolia, 1939, public domain, Wikimedia Commons.

Policy and politics. Opposing German hegemony in Europe remained the principal commitment in the interwar period. Russia also opposed Japan's expansionism in China. Both threats were cancelled in WWII, and Russia challenged the USA's world hegemony.

As soon as the technological and tactical innovations of the preceding cycle were implemented in WWI and the following decade, *the offence-defence balance* shifted in favour of offence by Russian infantry. Mechanised infantry became a key component of the deep operations which were proposed in the interwar period and became the pattern of the Russian military art in WWII.

Russia survived the dramatic fallout of the national consciousness in the Revolution and Civil War from 1917 to 1921; the patriotic core of its *passion of the people* persisted. The patriotic feelings were vigorous in WWII and its aftermath when they played for high *morale of the troops* and fast technological development.

Long wave's character and profile. Implementation of the innovations of the preceding cycle was a short seven-year-long upswing of WWI and the Civ-

il War. The following twenty-seven-year-long plateau was committed to their adoption by the military doctrine. The final upswing came in the clash with the Japanese army at Khalkin-Gol in Mongolia in 1939. It continued thirty years through WWII up to the suppression of the Czechoslovak revolt in 1968.

Such innovations as the precision weaponry, including infantry guided anti-tank and anti-aircraft missiles, and reconnoitering the battlefield with visual, thermal, acoustic, and radar sensors emerged since the turn from the 1960s to the 1970s in the European standoff of the Cold War and messy engagements of the Vietnam War. However, their full-scale use required remaking of the military doctrine, including the composition and organisation of the forces, their tactics and operational art. The militaries were reluctant to do that, and the political leaders did not press them through.

12. The RMA epoch, from the mid-1970s to the mid-2020s.

Military. The visionary RMA system integrating the innovations into a computerised combat system was tried in the course of the exercises **Zapad-81** under Marshal Nikolay Ogarkov and put aside. Reshuffling of the Soviet regime was needed to accommodate them.

Economics. The innovation drive of the Russian economy from the mid-1970s to mid-1980s is often underestimated, although the Soviet Union managed to maintain parity with the USA in the key civil and military technologies.

The Russian *international policy* in the cycle is sharply divided into three periods – global rivalry with the USA in the first fifteen-year-long phase, survival in the collapse of the Soviet Union and its aftermath in the second fifteen-year-long phase and return to great power ambitions in the last twenty-year-long phase. *Domestic politics* is more straightforward. The decline of the Soviet Union ended with its abrupt collapse, which was followed by a steady strengthening of Russian statehood.

The offence-defence balance witnessed the failure of Russian infantry's offensive efforts in Afghanistan from the late 1970s to the late 1980s. The advantage of defence was clear in the post-Soviet civil wars, like in Tajikistan and Chechnya in the 1990s and the early 2000s. Since the mid-2000s the late Soviet concept of the RMA was resumed. It was used for "hybrid warfare" in



Fig 10. A heavy road to revival, Russian infantry in Chechnya, 2000.
шурави. екатеринбург.рф

the Eastern Ukraine and Crimea and tried as a local high-tech war in Syria since the mid-2010s. It turned into full-scale “new model” warfare, combining the new infantry tactics and high-tech weaponry in Ukraine since 2022. Evidently, Russian infantry advances to regain its offensive advantage.

The current *passion of the people* is characterised by the move from the ideas of Russia’s global mission to new Russian patriotic nationalism committed to shaping the competitive state, completely self-minded in its international position and social values. It feeds *the morale of the troops* that is high despite the relentless efforts of the Russian opponents to erode it.

Long wave’s character and profile. The first fifteen years were the down-swing, and the second similar phase was the negative plateau. The third twenty-year-long phase started in around 2005 when the Russian political system stabilised. The RMA technologies have been effectively used, and the next cluster of innovations is arriving.

Its pivot is artificial intelligence (AI). AI looks like the innovation integrating the RMA weapons into a unified warfare system with effective “superhuman brains.” It is also growing to be the new organisational form of war as a

whole. However, in line with the established pattern, implementation of AI-based innovations belongs to the next cycle that is impending. Some political and social changes are needed to implement them. What kind of changes? We are facing them soon.

CONCLUSION.

Large cycles of warfare similar to Kondratieff's long waves in economy look like a fruitful analytical model providing some important observations.

War is not a subsidiary of technology, economy, politics, and culture. It represents a self-sustained phenomenon interacting with the external factors through the character of war as a product of its nature and offence-defence balance as the dynamics of warfare.

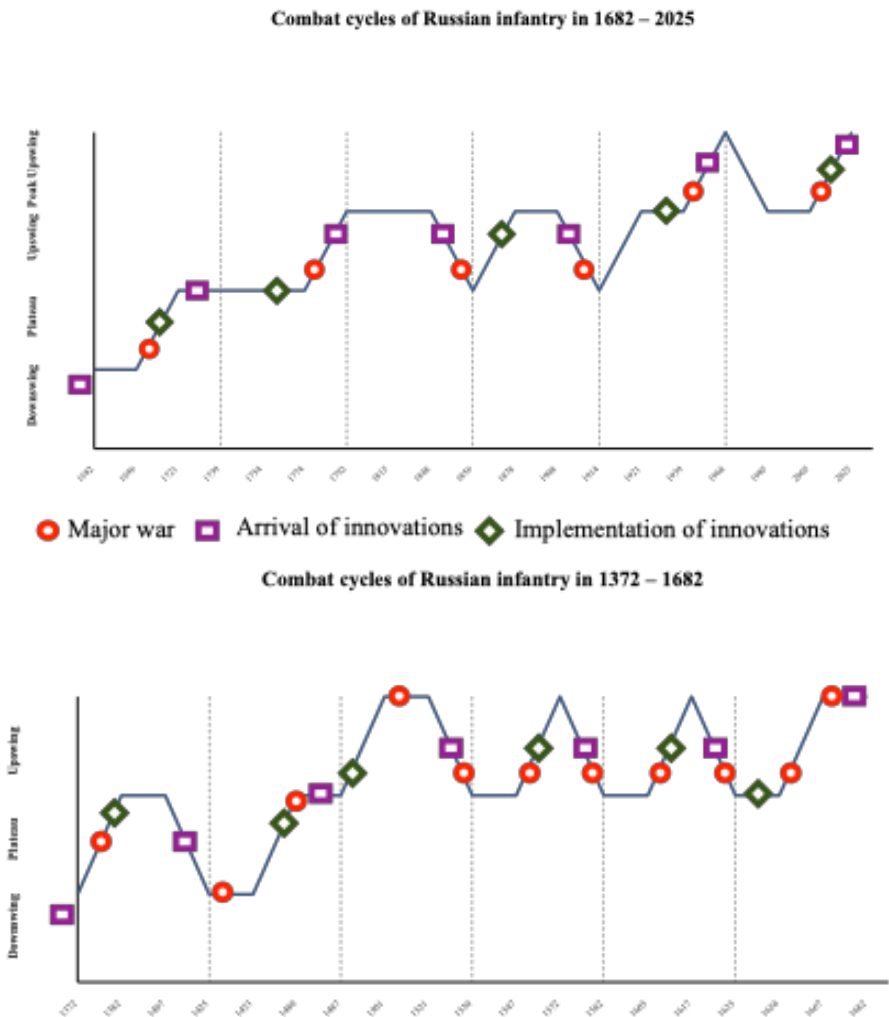
Transformation of war, warfare, and infantry, as its phenomenon, has a cyclical shape. "Something big" happens indeed every fifty to sixty years – the period equal to the length of the K-waves – changing the character of war. None of the twelve proposed cycles avoided this rule. Alternation of a leader between the elements of the Clausewitzian trinity of war guides the change of its character in interaction with technology, geography, and properties of the enemy. The changing character of war rotates the large cycles and differentiates them.

Change in the character of war is manifested by massive implementation of the fighting innovations or "mutant practices" of combat. However, they are not strictly new since they had arrived during the last phase of the previous cycle but had not been implemented. These repeating situations divide the large cycles. The combat innovations do not arrive from the external spheres of technology, economy, politics, and culture but are born in war itself – in fighting, build-up of the forces, and military planning. Their implementation depends on the ability of the political and social structures and the people's mentality to adopt them. The external structures do not produce the military changes, but they can postpone, boost, and distort their implementation.

The offence-defence balance shifts within the cycles between their upswing, plateau, and downswing. Contrary to a widespread belief, Russian infantry was not a defensive but an offensive force corresponding with the expansionist drive of the Russian state. The majority of the phases were either the upswings or

plateaus of its offensive advantage. Russian infantry was invariably successful in offence, and its defeats belonged to the defensive phases that were its downswings.

The upswings were cancelled mainly not by internal degradation of Russian infantry but by the newborn efficiency of the enemies. Russian infantry almost never declined due to some organisational and moral downfall. It must be broken in combat to push its downswing.



Graphic 1. Combat cycles of Russian infantry in 1372 – 2025

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Conclusions

by JEREMY BLACK

The past, present and future of war are compounded of both general themes and specific variations. Their interaction is very important for commentators and planners in individual states, such as Japan. They are so both from and for the perspectives of these states, but also because it is very important to understand the pressures, contexts and views of other 'players' whether opponents, allies or neutrals. As such, there is a dynamic in terms of the interaction between strategic cultures and developments in terms of changes in weaponry, politics, society and other aspects, direct or indirect, of military affairs.

The pace of change today is one that can suggest very different observations about the role of infantry. This pace certainly entails the conclusion that there is no one clear situation for the recent past, the present, or the apparent future. Instead, there is a fundamental variety in the character, role and apparent future of infantry. This variety is linked to, but not solely caused by, a diversity of circumstances and responses. That, indeed, is a conclusion that should guide our approach to the history of infantry as a whole, as well as illuminating prospects for the future. Related to this point, there is no need to read in narrative, analysis, or just in emphasis, from past to future, nor from future to past. Nevertheless, as for other historical processes, such a process can be indicative, not least for conceptual and methodological reasons.

The variety can be readily grasped by looking round the world and doing so without adopting the prioritisation derived from Western and, more particularly, American preconceptions and priorities. Variety is the case if comparing major conflicts, notably, over the last three years, those in Ethiopia, Sudan and, very differently, Ukraine. It is also pertinent for longer-lasting conflicts on a smaller scale, such as those in Myanmar or, very differently, Kashmir. In both

of these, the 'scale' appears different to that of Ukraine because the focus is on insurgency and, therefore, also counter-insurgency warfare. This context offers a different explanation and range of assessment for a range of military criteria from infantry effectiveness to fortification and siegecraft.

It is also possible to note variety by assessing conflicts and possible conflicts discussed in 2025, for example between Iran and Israel (actual), China and Taiwan (possible), or North and South Korea (possible). Contrasting those two can pull to the fore a clear point: that of the relative significance of gaining control over territory. Thus, there is an obvious contrast between an Israeli attack on Iran, which, as in 2025, would be aerial, from both aircraft and missiles, and that of China on Taiwan.

In the latter case, and that of a North Korean attack on South Korea, whatever the doubtless key role of missile, air and sea operations in isolating, damaging and overawing the target, the end-result pursued would be troops on the ground seizing control. Indeed, to that end, in order to show a capability to overcome the problems by such an amphibious assault, the Chinese, in early 2025, demonstrated landing craft systems of linked landing craft that would make a large-scale (in troop numbers) beach assault easier. Equally, such beaches are those that the Taiwanese will seek to protect. Separately, at the strategic level, the fortress that is Taiwan also appears vulnerable due to uncertainties about American policy, which indeed helped make South Korea and Kuwait so in 1950 and 1990 respectively, while the British equivalent was the Falkland Islands in 1982. More generally, this has become an issue for all of America's allies, including Japan.

Returning to Israel, the role of tasking in the place of infantry becomes clear. In the case of (non-neighbouring) Iran, there is neither a will on the part of Israel to seize territory, nor any prospect of doing so. The tasking of the military in such a conflict is very much directed to an aerial force structure, doctrine and planning. So also were China or North Korea to attack Japan.

In contrast, in the Gaza Strip, the Israeli determination since the Hamas terrorist attack in 2023 (an infantry attack even if motorised in part) has been to destroy the Hamas organisation and, in addition to air assaults, that has meant troops on the ground from 2024. Many of these are clearly armour, but many are not. This is particularly the case due to the need to gain control not only of a sur-

face that is, thanks to dense settlement and the impact of heavy and destructive bombardment and bombing, far from isotropic, indeed often rubble-strewn. It is also the case of the extensive subterranean systems of tunnels used by Hamas to both tactical and operational ends, and with a strategic impact. This is not an aspect of some primitivisation of war, however much the high casualty rates for civilians and the destructiveness of the conflict might suggest otherwise.

Instead, there is the question of adaptability to environments. Thus, infantry and combat-engineers both play a major role in Israeli operations. Again, they may be brought to the battle-zone through motorised means, and, indeed, use vehicles in their operations; but they are essentially infantry, just as American combat-engineers were against Japanese defenders on Iwo Jima and Okinawa in 1945 and Iraqi ones in Mosul in 2016-17.

There can be a similar overlap between artillery, vehicles and infantry. This was seen with the successful North Korean advance in 1950 into South Korea. Infantry was brought up behind the tanks in lorries, before the envelopment of opposing units, with, in addition, a blocking position established to the rear of these units in order to further induce hopelessness.¹ This was a method also used by the Japanese when successfully and rapidly advancing against the British in Malaya in 1941-2 and Burma in 1942, in each case translating tactical success into operational advantage with a strategic outcome. In turn, in 1950, artillery could be used by the North Koreans to help the infantry to move in and attack opposing tanks.²

If this is the present and recent past; what of the future? Here the major variable is the respective role of state-to-state and civil warfare. The former puts the emphasis more on the destruction of the articulation of opposing state military systems and, therefore, to a considerable degree on air action. This is notably so if the target is distant but is also relevant in attacking command and control systems at all levels, including nearby forces.

Civil warfare, in contrast, follows the classic need to control territory and people, as in Sudan, with the concentration of authority, wealth and people making cities, where it is easiest to loot power and resources, the major sites. Thus,

1 R. Dannatt and R. Lyman, *Korea. War Without End* (Oxford, 2025), p. 92.

2 *Ibid.*, p. 74.

in Sudan, there is a need to control Khartoum. At the international level, this is not a goal for Japanese forces, but is, for example, for North Korea as far as South Korea is concerned.

It is reasonable to ask how far drones and Artificial Intelligence (AI) systems will change this situation, and in part or whole, in so far as the impressions of the two can be separated. Alongside an emphasis on resilience and morale, there has been much technological triumphalism to this end, notably, in the case of drones, with the Ukrainian resistance to Russian invasion from 2022.³ Drones, initially, apparently provided the David of Ukraine with a modern slingshot to take on the Goliath of Russia, before coming to be in central and insistent use by both combatants, and taking over from artillery the role of major killer, although the latter remains very important, not least in the form of self-propelled guns. The pace of drone development has excited considerable attention and led to further investment and speculation about capabilities, doctrine and impact.

From 2024, there has also been more discussion about the implications of AI for combat. The future of course will provide the relevant data-set, but time-travel remains beyond us. Nevertheless, the basis of procurement, doctrine, planning and training requires just such an engagement with the prospects of the near- and further-future, even if the concept of ‘future-proofing’, as used for example to defend the British investment in the early twenty-first century in ‘super carriers’, is clearly redundant.

It is easy to understand why, in face of the heavy costs of actual and potential conflict, there is the continuing attraction of the ‘magic-bullet’ approaches of future weaponry and platforms, one so often seen with both contemporary and historical (for and from every period) discussion. This approach is encouraged by a uni-directional account of the past, one extended into present and future, an account that needs to be qualified contextually, empirically, and in terms of the simultaneity of differing methods.⁴

The prospect of that approach has also been deployed in recent years with an

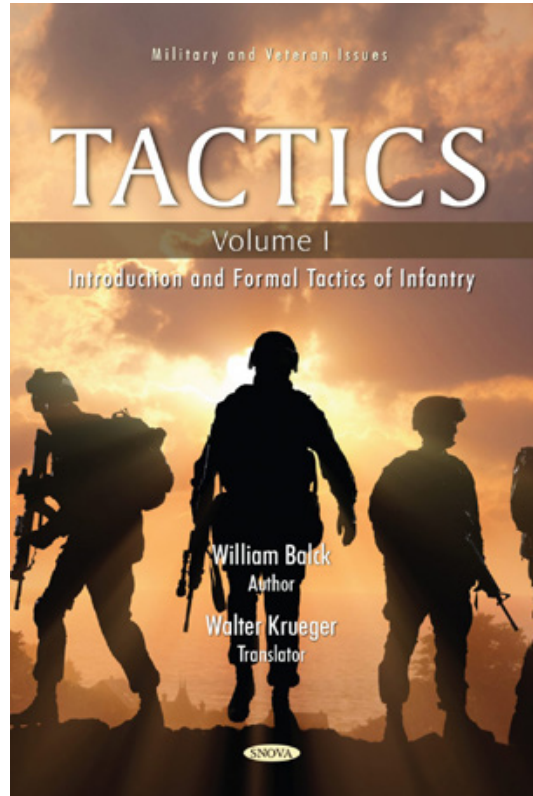
3 L. Harding, *Invasion: Russia's Bloody War and Ukraine's Fight for Survival* (London, 2022); C. Lawrence, *The Battle for Kyiv* (Barnsley, 2023).

4 B. Bouget, ‘D’une guerre à l’autre, le double retard de l’infanterie française: un handicap limité (1688-1715), in H. Drévilon (ed.), *Les dernières guerres de Louis XIV* (Rennes, 2017), pp. 143-56.

extensive discussion of the prospect of nuclear conflict employing very rapid delivery systems, notably, but not only, by means of hypersonic missiles. So also with consideration of satellite warfare.

Both of these may appear to leave no role for infantry, or, indeed, for conventional aircraft, but that conclusion very much depends on the goals and context of the conflict. To a degree, the use of advanced systems to degrade or knock out other advanced systems, or ones that at least require sophisticated coordination, will leave more space for infantry: in consequence of such damage and cost, infantry will retain greater relative effectiveness and possibly gain more safety. There is of course an inter-operability of infantry with more advanced systems, notably in reconnaissance, but there is not a dependence on the latter. Indeed, infantry offer both defender and attack resilience, and therefore reserve strength, in a way that other systems do not. This will be important to Japan or South Korea if responding to attack and also for example to the Baltic Republics.

That does not mean that infantry does not require considerable backup, especially in logistics, but, rather, that, on the whole, it possesses greater resilience, endurance and sustainability than other weapons systems. This is notably so compared with armour where serious mechanical, supply and cost issues are separate to the problems posed in campaigning by size and therefore exposure.⁵



5 J. Black, *Tank Warfare* (Bloomington, Ind., 2020).

Indeed, the vulnerability of armour to drones encouraged an emphasis on motor-bikes in the Ukraine conflict by 2025: as a new form of dragoons, with a speed to help avoid spotting and accurate aiming by both drones and artillery. Furthermore, the rate of depletion in conflict of armour, which (separately) in real terms is far more expensive than during the Cold War (but without providing comparable invulnerability, will encourage an emphasis on infantry. The rate of depletion of the infantry will be lower.

That situation will also interact with the doctrinal dominance, one prevalent since the later campaigns of World War One, that emphasises fire supported by manoeuvre, as opposed to a more realistic one of manoeuvre supported by fire. The second is a doctrine particularly valid for counter-insurgency and domestic control tasks. Infantry can seek to thwart fire-systems by being smaller in scale and more flexible.

Anti-weapon systems, for example the laser-interception of drones, may well lessen the impact of anti-infantry weapons. As a different point, reserve systems and/or conscription may provide more manpower, even if its fighting effectiveness, or indeed morale and reliability, may not be as great as in the case of regulars. Thus, there will be relatively cheap territorial units, defending key points and roads within a country, in contrast to armoured infantry in mechanised brigades, the latter fewer in number, more expensive and harder to replace rapidly.

Infantry offers the advantage of mass, as the Russians readily showed against Ukraine, and as they underlined by fielding North Korean units as well as plentiful conscripts. The number of active Russian military personnel increased by 234,000 between 2019 and 2025, by far the largest for any state and one that excluded numerous casualties: Poland in comparison had an increase of 46,300 men and Britain a decrease of 9,200. However, the Russian conscripts created problems in the shape of social exposure to the conflict, not least the consequences of Soviet-doctrine-type attrition,⁶ economic damage from the war, and a risk that soldiers and, later, veterans will act as a rebellious or, at least, disgruntled force. These factors were/are also present for Ukraine.

6 Z. Lazar, 'OSINT Chronicles: Analysing Frontline Dynamics, Equipment Losses, and Casualties in the First 500 Days of the 2022 Russian Invasion of Ukraine,' in T.D. Young and J. Gryz (eds), *Tactical and Strategic Insights from the Russo-Ukrainian War* (Exeter, 2025), p. 53.

The Ukraine war led to tension between the Russian military and the FSB, the main security agency. Indeed, the latter, under President Putin's direction, and on a longstanding pattern in Russia and other states, became increasingly a force for the surveillance and control of the military. There has also been political tension in Ukraine over the loyalty and reliability of security and military figures. Security agencies can have paramilitary components and be part of the force structure of a state, although, as with the Assad regime in Syria, they can also collapse rapidly.

What mass might mean in the context of changing global demographics is unclear for there are important variables, notably in terms of the desirability, ease and cost of recruitment, and of supporting large numbers, as well as the questions of control over the military that thereby arise. Mass is a serious issue for Japan and South Korea due to the age pyramid.

Separately, mass may well mean heavier casualties, notably in the face of drones, which also place a considerable psychological strain on troops. The noise of drones leads to anticipatory fear that extends to subsequent panic attacks, while the sense of helplessness in the face of autonomous weaponry affects morale and mental health. Yet heavier casualties do not prevent mass having a considerable tactical, operational and strategic advantage. Moreover, mass does not have to mean clumping (concentration) on the battlefield and the attendant vulnerability, and these can diminish with experience, new doctrine, and training, as in trench warfare in World War One by 1918. Indeed, this mass has to be employed effectively, as the French showed in the 1790s in the French Revolutionary War with their use of column attacks. There is the need for militaries, such as Japan, that lack mass, in regulars or reserves, to consider how best to respond to the situation. Yet, as so often, agency, or relative effectiveness, was provided in part by the nature of the particular circumstances. Thus, column attacks could be thwarted by strong defensive firepower as the French found when confronted by the British in reverse slope positions in the Peninsula War.

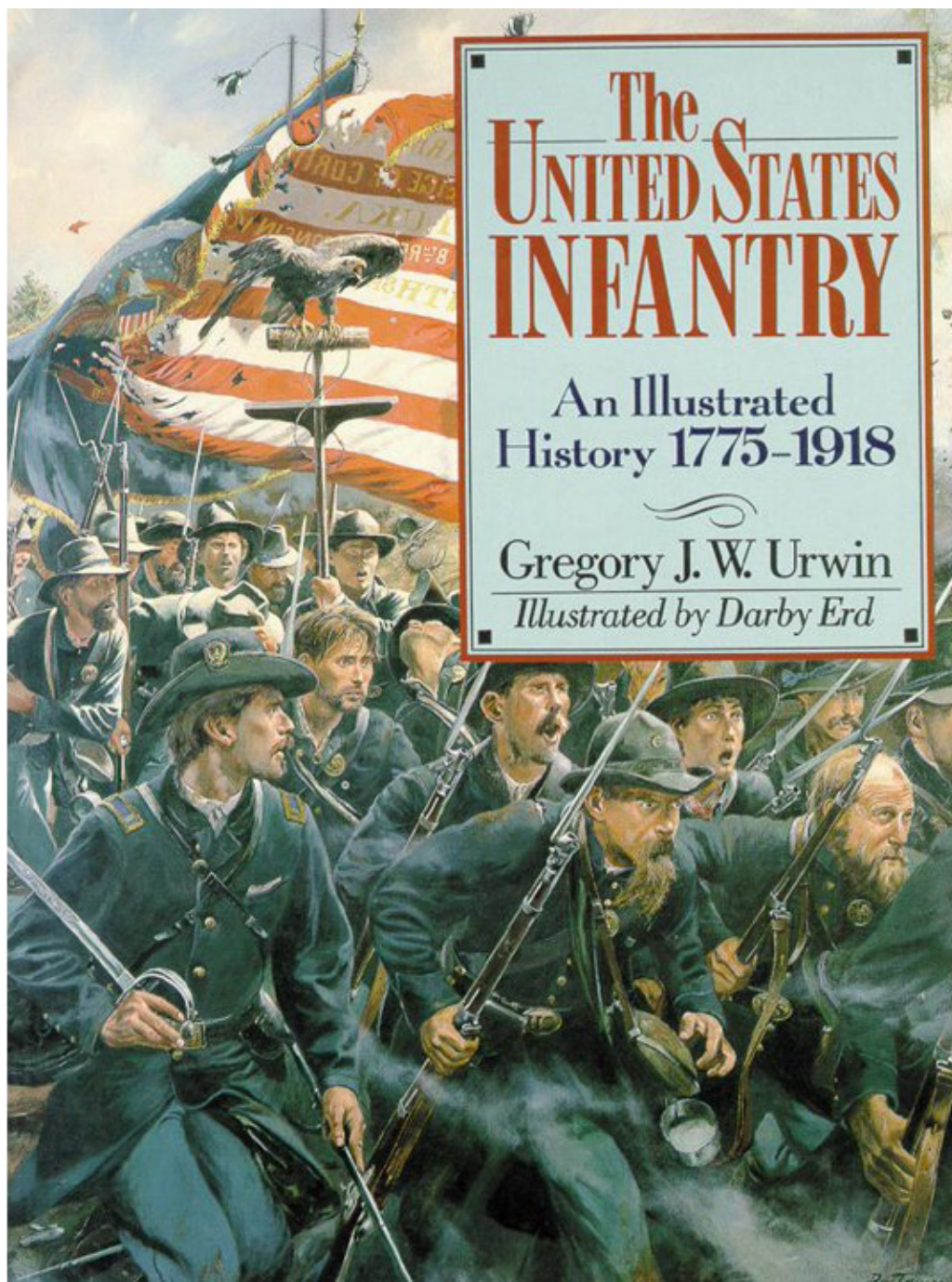
Use and doctrine both play a part. Examples can be instructive, as with Israel and Ukraine, both of which are outnumbered by their opponents. But a range of factors can play a role. Based on conscription, and with a considerable experience of conflict, the Israeli Defence Force in 2023 was scarcely a small or inexperienced force, but it moved slowly on 7 October after a terrible Intelligence

failure, in part due to poor command and control decisions but also as a result of a systemic error due to a strategic and doctrinal focus on Iran and an underrating of Hamas. As a result, there was a concentration on air power, and, in comparison, not on keeping the IDF battleworthy. In particular, training was deficient, in marked contrast to that of the Hamas Qassam Brigade which benefited from surprise; while there was a linked Israeli inattention to basic security, not least in failing to hold a daily 'stand-to', a procedure that prepares for being attacked. This failure was surprising in light of the vulnerabilities exposed in 1973 by a surprise Egyptian attack.

Aside from the effectiveness in particular circumstances, these issues can have societal dimensions, with a very different willingness between cultures to serve, both to serve and to accept discipline. As such, infantry poses, and in a particularly acute manner, the issues of social and cultural norms towards violence, service, discipline and risk. It does so more than other branches of the military because the need for manpower is greater and it can therefore be more necessary to raise recruits by compulsory service. This has been a process pushed particularly hard of late in Eritrea and Russia, leading to large-scale flight in each case. Separately, continuous conflict for Israel since 2023 led to large numbers of reservists serving for over 200 days, creating a reluctance to serve on the part of many.

In most cases, war and the risk of war encourages a militarisation that, in terms of numbers, focuses on the infantry. This can be an emphasis for analysis that should be read alongside overall numbers. In Finland, where all males are conscripted and trained, there are 280,000 troops in the rapid mobilisation reserve army, of whom only 8,400 are professionals. The total reserve is 900,000 soldiers (who are unpaid) in a population of 5.6 million. Conscription is popular and the polls indicate a willingness to fight in all situations. There is an emphasis on national resilience, as seen also by 50,000 civil defence shelters. In Lithuania, where by 2025, the defence budget was 5.5 per cent of GDP, there were 23,000 professional soldiers and 104,000 reservists.

This readiness is unusual by European standards, but there are attempts to alter the situation. Thus, in Germany, at the start of the twentieth century, conscription, the apparent definition of militarism, was suspended in 2011. As a result, by 2025, about nine of the ten million Germans who had served in the



military were over 65, which affected the availability of reservists: there were about 60,000 in 2025, when Carsten Breuer, the head of the armed forces, called for about 260,000 reservists, so that they could defend the homeland and/or provide backup when frontline troops were casualties. Thus reservists were seen as an aspect of resilience. In practice, data protection laws hindered efforts to swell the ranks of German reservists. Breuer also emphasised the need to increase the number of professional soldiers: from about 180,000 to about 200,000.

Looking to the future, a focus on population availability might suggest warfare in Africa and South Asia, the areas of greatest population growth, but not in East Asia and Europe, where population growth is lower or absent and, therefore, the number of young men far smaller. This might, for example, be a factor in Italy, which, however, is principally motivated by policy reasons. At the same time, involvement in conflict would have extremely serious demographic consequences for Italy, Japan and South Korea.

The current demographic crisis in Russia, a crisis that encouraged the quest to annex Ukraine, did not, in turn, prevent the sustaining of a lengthy and costly war, with at least 200,000 Russian troops dead and 600,000 wounded in the first three years, large-scale emigration, and a fresh expansion of conscription in 2025. However, the Russians also found, or at least felt, it necessary to deploy North Korean troops. As an instance of the varied consequences of war, this both provided them with experience and led to heavy casualty losses.

The encouragement, discouragement or transformation of conflict thanks to manpower issues may be further the case if population growth accentuates pressure on resources: from land to jobs, food to water. As a consequence, civil conflict will probably increase in these regions and not least, as in Sudan and Yemen, if there is external intervention. This may also become more significant in South-East Asia. Furthermore, such intervention can counter local military advantages, as in July 2025 when Israeli airpower successfully countered Syrian forces attacking the Druze minority in southern Syria. The focus of attention when considering conflict depends in part on the nature of Intelligence and reporting, both public and private. The weakness of state forms will encourage such external intervention, as, currently, by Rwanda, Burundi and Uganda in Congo and, recently by Eritrea in Ethiopia; and also such internal conflict, as in Haiti and Mexico where armed gangs are increasingly potent and in the former

case threaten ‘state capture’. Each of the conflicts mentioned in the previous sentence has seen a focus on infantry, as (separately) has doctrine and training for urban warfare, both international and civil.⁷

A dystopia, or, indeed, any protracted issues with law and order, may well mean an increase in the (varied) need for infantry, however much they are presented as police forces or across the full range of paramilitaries. In France in 2025, the police confronted rioters, sometimes gang-based, who used mortar fireworks and Molotov cocktails. Émile Lombertie, the Mayor of Limoges, referred in July to ‘organised guerrilla warfare’.⁸

The challenge of the ‘state capture’ of government power by, for example, drug gangs or illegal large-scale migrant flows, may overlap with that of ‘state capture’ by the more conventional means of the seizure of government authority, including as a result of military coups. Armed troops guarding government buildings, either from coups or in pursuit of them, may well be one of the most potent futures for infantry, and certainly the most visible: however effective, drones cannot match this issue.

So also with the use of troops to protect against civil disorder, as with those on the streets in Italian cities today, for example Genoa, Naples, and Palermo, a deployment that irritates some army officers who feel that it compromises purpose and training. Possibly, however, that is a naïve view given the need to justify state funding.

Their American counterparts may have similar views about deployment in Los Angeles in 2025. However, in practice, American troops, most commonly National Guard units, have frequently been deployed in domestic situations, not least from the 1950s, for example in enforcing desegregation that decade, and, differently, against a postal strike in 1970.

Mass, state forms, and tasking, are far from being the only issues in the discussion of infantry. There is also the challenge of relevance for infantries that are small-scale, as is the case in many states and, indeed, threatened by the mass and technology of opponents. Yet, the relevance of infantry for such armies will increase with the integration of infantry units designed for multi-domain

7 A. King, *Urban Warfare in the Twenty-First Century* (Cambridge, 2021).

8 Interview for *The Sunday Times*, issue of 27 July 2025.

operations. Separately, infantry, the arm best suited to infiltration techniques, which were a practice increasingly developed at the tactical level from the latter stages of World War Two, must respond to those and also adapt to the challenge of swarming. This entails manoeuvres designed to surround and take the enemy by surprise in order to gain the upper hand on the battlefield. In public order struggles, there can be swarming by guerrillas, which are opposing infantry, or by demonstrators the mass of whom is also threatening and dangerous, or by multiple drones.

In response to the last, a challenge increased by the ease of mass production, each infantry unit must have a relevant capability and counter-capability, in so far as these are different. These will benefit from the extent to which infantry is now motorised and/or equipped with portable artillery, notably anti-tank guns, mortars, drones (for reconnaissance and combat), and anti-drone weaponry. Infantry will have to provide manoeuvre and support roles, and be capable of carrying out multiple combat actions. What that will mean in practice is far from clear, but the availability of trained and determined manpower is a key element. That gives added value to regulars and ensures the need to invest in training.

Focusing on the Ukrainian counter-offensive of 2023 and the operations of the Third Assault Brigade, Mstyslav Chernov's *2000 Metres to Adriivka* (2025) is an embedded documentary in which the fighting has many echoes of World War One not least with the trenches, but many of the deployments of the infantry are from armoured personnel vehicles. Chernov suggested in a 2025 interview that 'this is probably the last film about conventional warfare' due to the rise of drones and AI-based targeting'.⁹ Damaged and stopped by strong and well-prepared Russian resistance, that counter-offensive made some significant gains, but left the Russians with many of their captures from 2022. As a result, this counter-offensive lacked strategic decisiveness, although it underlined the extent to which Russia no longer controlled the drive of events.

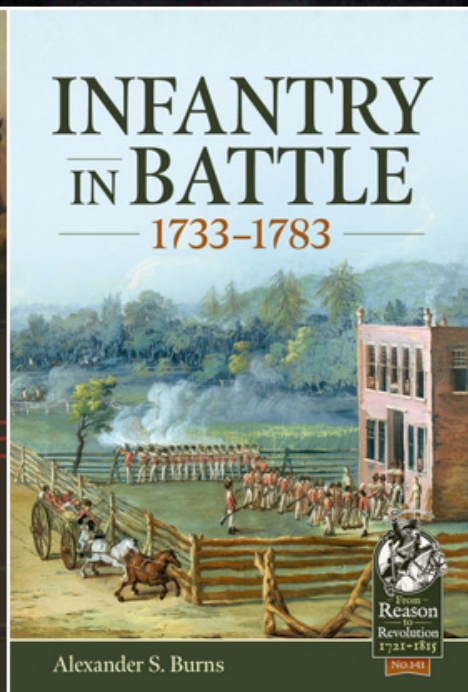
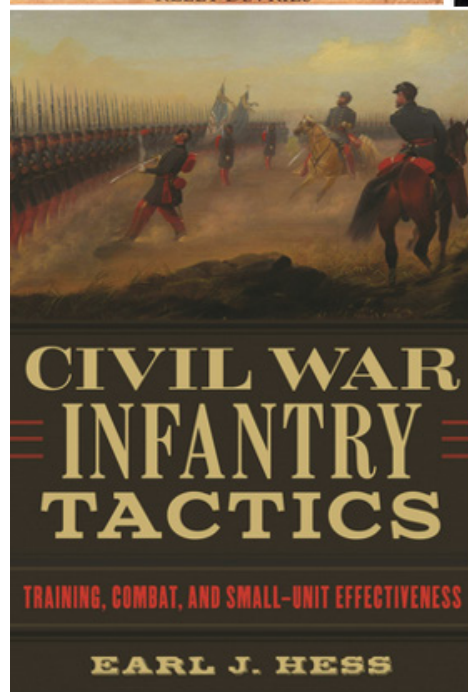
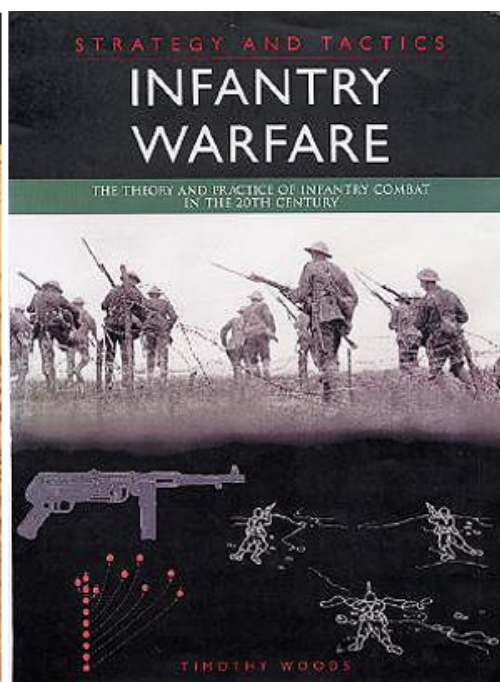
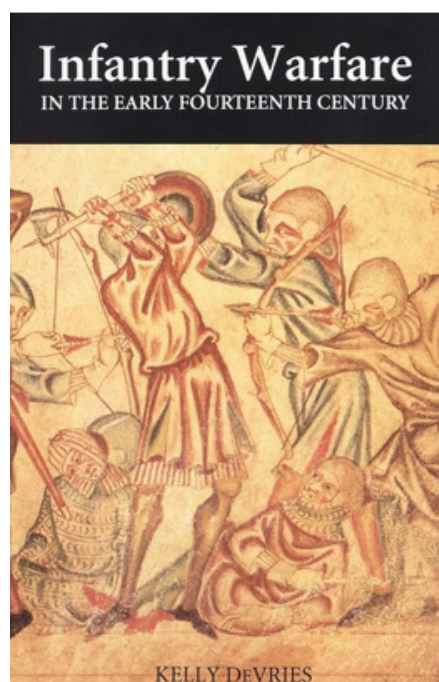
At the same time, looking to the future, there may well be robotic infantry that benefits from being trained by AI. To a degree, this idea captures dystopian fantasy elements of the past, such as the hostile warrior skeletons as depicted in Otto van Veen's painting *The Triumph of the Christian Knight* (1610s) or, some-

9 *Sunday Times*, 13 July 2025.

what differently, Luca Antonio Colomba's 'Gigantomachy', the Battle between Giants and the Olympian Gods, a fresco in the Gallery of War in Ludwigsburg Place, that of the Duke of Württemberg, which was decorated in about 1716-17. This was a theme frequently depicted in Greek art, but also subsequently, as in Giulio Romano's fresco, *The Fall of the Giants* of 1532-4 in the Palazzo del Te in Mantua.

More plausibly in the short term, there may also be human infantry that uses an augmented reality as well as implants to affect characteristics such as stamina. This, therefore, may be a 'postmodern' infantry. What these developments might mean in terms of command and control functions is far from clear. So also in terms of relative capability in light of the anti-weaponry that is developed. Again, it is change and variety that are to the fore. Certainly, infantry is no residuum composed of past processes.¹⁰ In assessing this situation, it is necessary to avoid the ethnocentrism Kaushik Roy warns against, and indeed any form of determinism. Such simplicities are totally misplaced.

10 For a recent heavily statistical account emphasising the continuing significance of infantry, B. Connable, *Ground Combat. Puncturing the Myths of Modern War* (Georgetown, DC., 2025). For continuity for infantry from 1945 to 2003, p. xiii.



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C current confidence in the present role and future potential of drones wrongly suggests that infantry is passed, finally redundant in an age of technology, as it already should have been for over a century in the shadow of artillery and in the face of tanks. This is mistaken as an account of today but also of the past, for, in both, the role of infantry has been underrated. Instead, as discussed in this volume, the presence of infantry has been fundamental to warfare and therefore changes in its characteristics, both absolute and relative to other arms, are of great consequence. This volume provides an opportunity to make this case and, in doing so, we have deliberately focused on military history outside its Western European concentration, for discussion of the military history of Western Europe and North America, particularly in the last half-millennium, overly dominates the literature, classifications, chronology and methodology of the subject. This volume is important both for what it offers for the present and for what it suggests for future work.

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