

# GLOBAL MILITARY TRANSFORMATIONS: CHANGE AND CONTINUITY, 1450-1800

EDITED BY  
JEREMY BLACK



SOCIETÀ ITALIANA  
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## FVCINA DI MARTE

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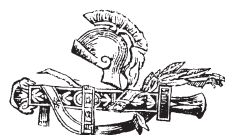
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## FVCINA DI MARTE

COLLANA DELLA SOCIETÀ ITALIANA DI STORIA MILITARE



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

Founded in 1984 by Raimondo Luraghi, the Italian Society of Military History (SISM) promotes the critical history of security and conflicts. The *Fvcina di Marte* series, from the title of a collection of Italian military treatises published in Venice in 1641, joins the SISM Quaderni series, monographic collective research on topics ignored or neglected in Italy, and the international journal *Nuova Antologia Militare* (NAM), which began in February 2022.





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1450-1800

EDITED BY JEREMY BLACK

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Nadir Media Srl

ISBN: 9788894698442



On the cover:

Japanese Armor (*Gusoku*) 18th century. “This cuirass and shoulder guards (*sode*) formed of large iron plates rather than traditional lamellae (small, narrow iron plates) reveal European influence and the concurrent introduction of firearms, which necessitated solid, bulletproof plates”. Metropolitan Museum of Art. Rogers Fund, 1906. Public Domain.

*Graphic design and realization: Antonio Nacca*  
*Print: Nadir Media - Roma • [info@nadirmedia.it](mailto:info@nadirmedia.it)*



*To Michael Webster*



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## Preface

By JEREMY BLACK

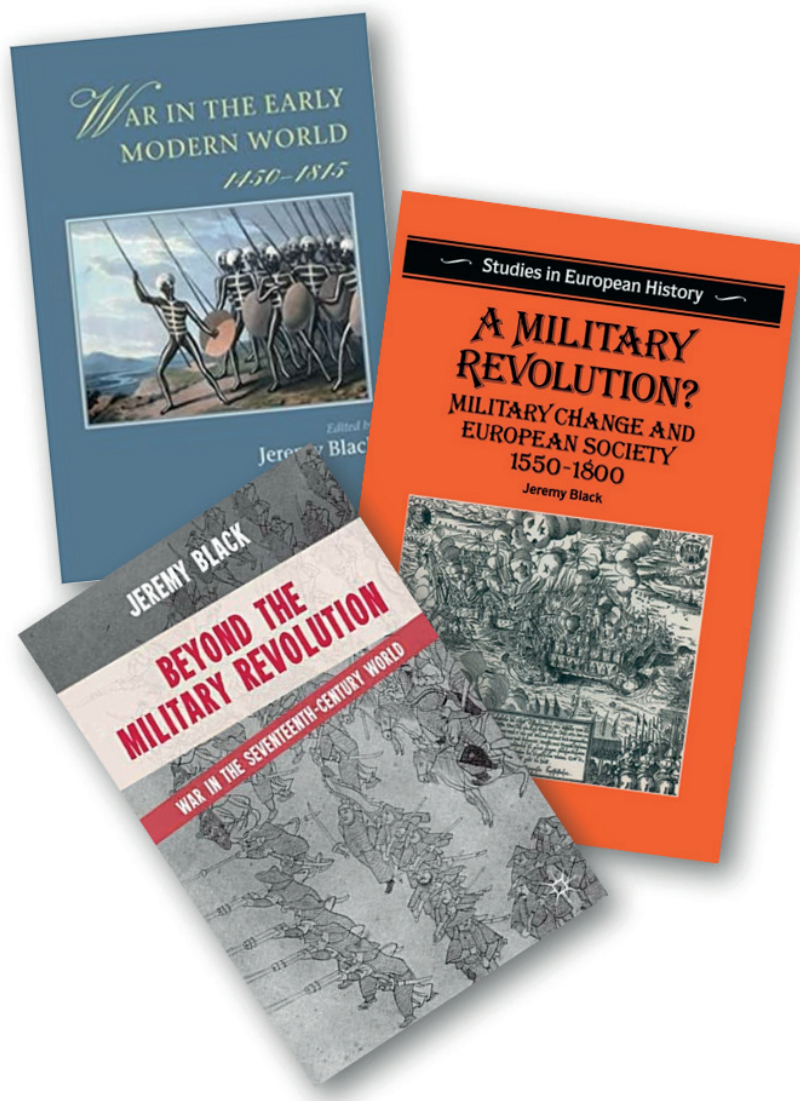
This major collection takes its significance from the quality and range of the contributions. It is also worth noting its genesis, for on any piece involving, at least in part, historiography, it is important to explain the why in order to throw light on the what. The genesis was an idea of my own that was helpfully adopted by Virgilio Ilari. Scholars were approached and kindly agreed to take part. In the overwhelming majority of cases, there was a 'first strike' success rate of acceptances. Where that did not succeed, this was a matter not of a rejection of the project but of the constraints posed by prior tasks and the time-span proposed.

Crucially in conception and implementation, there was no attempt to impose any template, and that has remained the case, both during the period of discussion of pieces and with reference to the editing. This may lead to a volume that is 'looser' in content than the norm achieved from attempts to select and corral authors. This 'looseness' reflects a definite editorial choice, that of a deliberate commitment to pluralism. In part, such a commitment entails a contrast not simply to the usual method of edited volumes but also a contradiction to the style and content of much military history, namely the almost machismo argument by assertion that is so frequently offered when theses are advanced. Such assertion focuses both on the theses advanced and on their simplification. Qualification does not come readily in such approaches to military history, which is an issue with some of the work on the subject. I would suggest that this description is highly pertinent for the 'military revolution.'

Linked to this, is the progressivist account and shaping of military circumstances and developments, a progressivism that draws on and applies assumptions about modernity and modernisation to military history, and of such history to the discussion of modernity and modernisation. Indeed, the assertion of an early-modern military revolution can be located as a facile application of modernity and modernisation to military history. These themes will be pursued, but, from the outset, need to be understood as significant.

I would like to thank all the contributors for their hard work, scholarship and

attention to both task and timetable. They are not responsible for any editorial flaws and failings on my part. I have again found Virgilio Ilari a helpfully kind and firmly supportive compatriot in scholarly industry. This collection is dedicated to Michael Webster, a thoughtful participant in historical discussion and a good friend.





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# Introduction

By JEREMY BLACK

This volume reflects part of the geographical and chronological range of the discussion of the early-modern Military Revolution. As such, the volume engages with the interaction of many sub-sets and narratives of history, not least those of world history, state development, technological change, and the social politics of force, as well as methodological issues such as periodisation and, in particular, the transition, if such a concept and term is to be used, from medieval to modern.

There is no need to read every chapter, and certainly not the sections by me, but, because each chapter stands on its own, it is important to consider them all so as to understand the varied conceptualisation, methodology, historiography, and developments in each. It is this very variety that is important as it captures the extent to which there was no one situation or trajectory, and, therefore, no common pattern that needs to be addressed by the scholarship.

To that end, this volume builds on a 2020 one in the same series – MILITARY HISTORY: SOME INTRODUCTIONS DESIGNED TO BEGIN A DEBATE, and notably the essay “Modernisation Theory and (some of) the conceptual flaws of the Early-Modern Military Revolution”<sup>1</sup>. A similar approach could be taken across a sub-discipline that is by its nature Whiggish in character and under-theorised. This is in the sense of adopting simplistic analyses as the context for a more general focus on the tactical and operational levels of war. This process was accentuated by the “face of battle” approach that became so influential from the 1970s.

As a result of the nature of much of the conceptualisation, it is necessary to rethink the subject. This is a situation encouraged by the growing strength of world history in recent decades, not the simplistic world history of the extension of Western power and models, but a more sophisticated global history that

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1 Jeremy Black, “Modernisation Theory and (some of) the conceptual flaws of the Early-Modern Military Revolution”, *Nuova Antologia Militare*, vol. I, No. 3, June 2022, pp. 3-7. DOI 10.36158/97888313526111,

notes the strength and autonomy of individual traditions. The latter approach is one that undercuts the standard approach to the idea of early-modern European military revolution, and that underlines the conceptual, methodological, historiography and empirical poverty of the latter.

This point can be taken further not only by arguing that to do so is inherently flawed, but also by considering the degree to which the very vocabulary and nomenclature of circumstances and developments varied and vary and to a degree that far surpasses any issues of translation or “lost in translation”. As such, it is necessary to be cautious about the application of say British concepts unless noting that this was what they were/are. Within Europe, yet also more widely, there were and are very different conceptualisations and vocabularies. We begin therefore with caution, and that understanding is necessary when assessing the issues raised by this topic.

It would be foolish to summarise the individual contributions, as it is best to approach them without presuppositions established by some editorial precis.

# The Medieval Background: Medieval Military Revolutions?<sup>1</sup>

By STEPHEN MORILLO

## *Introduction*

**T**he vast and contentious literature on the so-called Military Revolution of Early modern Europe (MREME)<sup>2</sup> takes, usually implicitly and sometimes explicitly, as its baseline for change the preceding medieval period, which by implication did not witness a military revolution. This implicit and usually unexamined characterization of the medieval era is one with which I agree: the Middle Ages (as conventionally understood, a point to which I will return below) lacked military revolutions. I have taken it as my task here to examine why there were no military revolutions during the long medieval era as a way of providing a more self-conscious baseline for the close case studies of the question that occupy the rest of this volume.

1 This article is dedicated to Cliff Rogers, USMA friend and colleague, because this is a topic on which we disagree. Cliff is in many ways the ideal academic opponent: it is fun and challenging to argue with him, because he's so insistently logical in his arguments, which are always grounded in good evidence drawn from his impressive depth of knowledge, and not least because he's fundamentally fair in his fights. I try to be the same, not always with success. And like me, Cliff is usually pretty convinced of his own correctness. But we have somewhat different approaches to the past, which leads us down different paths of analysis. Sometimes — indeed, often — our different paths lead us to the same end points, leading us to agree, even if from different perspectives. This is true more often than not, I'd say. But sometimes (and the issue of "The Military Revolution of Early Modern Europe" (see the following footnote) is one of those cases), we disagree. I offer this article in the spirit of friendly contention.

2 As this article will make clear, I am a skeptic of the historiographical construct referred to as "The Military Revolution", a skepticism that extends to the general concept of "military revolutions" as conventionally understood. I am furthermore an even deeper skeptic of the "Early Modern" construct, in Europe or elsewhere. But for the sake of both brevity and clarity, I will simply refer to The Military Revolution of Early Modern Europe as The Military Revolution (or as the MREME), and deal with questions of periodization as necessary, sticking roughly to the conventionally understood medieval period, though perhaps deriving that period from different bases than usual.

To do this, I will first consider a brief selection of candidates for possible medieval military revolutions and look at why they are not usually taken as military revolutions. This will lead to a more theoretical consideration of the problems of context, definition, meaning, and terminology that consistently plague the Military Revolution Debate, from the perspective of medieval military history. I hope the end result is not just an explanation of why there were, in fact, no medieval military revolutions, but a clarification of the terms of the debate.

### *Medieval Military Revolutions?*

#### *What is a Military Revolution?*

Historiographically, the term “military revolution”, starting with the MREME itself as the paradigmatic case, seems to mean a significant change in military capability (on the part of some particular armed force or forces) that in turn had a broad and significant impact beyond strictly military activity. And starting again from the paradigmatic case, the significant change in military capability is usually taken to originate with a technological innovation – gunpowder weaponry (whether artillery or personal firearms) in the case of the MREME, the introduction of which led through a series of apparently inexorable steps to tactical (and/or strategic) changes that demanded new kinds of armies that demanded new kinds of states to create them which, finally, birthed a political-military formation capable of dominating global military activity.<sup>3</sup> State formation and global dominance are the paradigmatic examples of the broad and significant results of changes in military capability necessary for a change to qualify as a Military Revolution; without such impacts, we have either a simple technological innovation or, at best, the more limited phenomenon of a “Revolution in Military Affairs”, a category invented because full-blown Military Revolutions were too hard to find for historians interested in examining military-technological change and giving their topic some significance. (And it should be said that the very breadth and significance of the claims made on behalf of the MREME were what made the thesis significant historiographically; historiographical significance, however, is no guarantee of historical accuracy.)

Whether each specific element of this definition is *necessary* for there to have

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3 I take it as unnecessary to re-cite the vast MREME literature, starting with Roberts and Parker, that is readily available elsewhere, including in this volume.

been a Military Revolution in history is of course open to debate. Arguments can be had (and have been had) about what counts as a technological innovation, what counts as significant impacts (does the *form* of the state have to change, or does the ability of a particular polity simply to conquer widely count as a symptom of a Military Revolution?), and over what (compressed?) period of time change has to happen to count as revolutionary as opposed to evolutionary, this last question being at the heart of the problem of evaluating the balance of continuity and change that is present in all history. But setting aside such debates about the elements that make up a Military Revolution, which are being carried on robustly elsewhere, those elements are certainly in place historiographically, and I will refer to them to evaluate potential medieval military revolutions.

### *What is “medieval”?*

Or how do we define the Middle Ages? Periodization is of course a consistently fraught problem in historiography, and acutely so for the concept of a “Middle Age”, born polemically from the minds of Italian humanists for whom the prior age was “dark”. The concept is even more problematic when applied globally, given its European roots. I will follow here the climate-and-disease definition of the Middle Ages that I developed in my recent book *War and Conflict in the Middle Ages: A Global Perspective*.<sup>4</sup> In this view, the Middle Ages began with three massive volcanic eruptions in different parts of the globe in 535/536, 539/540, and 547. These brought on a period of global cooling of about 2°C, easily enough to cause significant short term weather events and to broadly disrupt agriculture, that lasted from about 540 to 660.<sup>5</sup> While the causal connection between this sudden climate variation and the spread of diseases remains speculative, the LALIA at least coincided with a set of Eurasian pan-

4 Polity Press, 2022.

5 Büntgen, Ulf, et al. “Cooling and societal change during the Late Antique Little Ice Age from 536 to around 660 AD”, *Nature Geoscience*, 9, (3), 2016: 231–236. While the climate effect was most extreme in the Northern Hemisphere, ice cores from Antarctica form part of the evidence for the volcanic eruptions, demonstrating at least some global scope. See also Tim Newfield, “The Global Cooling Event of the Sixth Century. Mystery No Longer?”, HC Blog, 05/02/2016. The best overview of climate history is Benjamin Lieberman and Elizabeth Gordon, *Climate Change in Human History: Prehistory to the Present* (London: Bloomsbury, 2018). See also Sam White, Christian Pfister, and Franz Maulshagen, eds., *The Palgrave Handbook of Climate History* (London: Palgrave Macmillan, 2018), especially Ch. 32, “The Climate Downturn of 536–50”, which offers a balanced assessment of the onset of the Late Antique Little Ice Age.

demics that included most famously the Plague of Justinian, almost certainly a bubonic plague outbreak, in the eastern Mediterranean world starting in 541.<sup>6</sup>

The crisis of the LALIA and its associated pandemics led to the “decline and fall” of the great empires of the classical world, and of that classical world generally, which was then replaced by a more complex and varied world that we can call medieval, the key elements of which I will return to shortly. One can also say that the crisis marked the end of an Early Agrarian Era, which was followed by a High Agrarian Era that lasted to roughly 1500, which was followed by a Late Agrarian Era from 1500 to 1800, all of which can be defined in terms that are fundamentally demographic-materialist and globally applicable.<sup>7</sup> That very basis of defining eras, however, leaves the “end” of the Middle Ages open to debate. On the one hand, and conforming more to conventional understandings of the medieval period, it can be argued that the same set of conditions that birthed the Middle Ages then killed them off: climate change (the onset of the Little Ice Age around 1300) and an associated bubonic plague pandemic (aka The Black Death in Europe).<sup>8</sup> On the other hand, it is hard to see a “collapse” of the medieval world comparable to the transformations that afflicted the classical world, and when underlying demographic-materialist conditions are taken into account, it is just as easy (though running against extremely strong currents of conventional historiography) to argue that “The Middle Ages” extended right down to the Industrial Revolution (whose beginnings also coincided with the end, in the mid-19<sup>th</sup> century, of the Little Ice Age and the last of the European outbreaks of the Black Death in the mid-18<sup>th</sup> century. For the sake of the coherence of this collection of articles, I will avoid pressing the latter view, though it does have the happy consequence (from my perspective) of doing away with the nonsensical “early modern” category of periodization and thus cutting away at least half of the MREME paradigm.<sup>9</sup>

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6 On the “first plague pandemic”, see Monica Green, “When Numbers Don’t Count: Changing Perspectives on the Justinianic Plague,” *Eidolon*, 18 November 2019, <https://eidolon.pub/when-numbers-dont-count-56a2b3c3d07>.

7 See Stephen Morillo, *Frameworks of World History*, (New York: Oxford University Press, 2014).

8 As is argued by Bruce M.S. Campbell, *The Great Transition. Climate, Disease, and Society in the Late-Medieval World* (Cambridge: Cambridge University Press, 2016).

9 And I would note that Jacques Louis David, for one, could see the continuities between classical, medieval, and — very late medieval? — militarily. In his famous painting of Napoleon crossing the Alps, Bonaparte’s horse rears above rocks on which are inscribed the names Bonaparte, Annibal (Hannibal), and Karolus Magnus (Charlemagne), which shows David equating his hero’s feats with those of earlier leaders. One finds it hard to imagine George Patton

*Possible Medieval Military Revolutions.*

I will suggest here three possible candidates for a Medieval Military Revolution, consider (and reject) two of them in detail, and discuss the underlying reasons why the Middle Ages did not see Military Revolutions across its millennium to millennium and half of historical development. My candidates for a Medieval Military Revolution are first, the process of “medievalization” that created the medieval world after the collapse of the classical world; second, the explosion of the Mongols out of Central Asia in the 13<sup>th</sup> century to create history’s largest contiguous land empire; and third, the spread of gunpowder from its invention in Song China in the 900s. This third case I will ignore, as it is the basis for the entire MREME paradigm. I will simply note that, in conventional terms, the paradigmatically revolutionary effects of gunpowder belong to the “early Modern” world, or a post-(conventional-)medieval era, and thus cannot be a medieval military revolution. (The arguments about whether the paradigmatic case is in fact a Military Revolution are also, it seems to me, unaffected by whether one places them in an “Early Modern” era or in an extended medieval world that lasted until 1800 or so, and in fact the underlying continuity upon which the latter periodization is based would constitute a *prima facie* argument against any broad revolution having taken place within the period.)

Therefore, I will consider “medievalization” and the Mongols as potential Military Revolutions as a way of examining the dynamics of the medieval era as a whole.

*“Medievalization” as a Military Revolution?*

The process of “medievalization”<sup>10</sup> consisted of the range of adaptations and transformations that societies across Eurasia and arguably around the globe made in the face of the climate-disease crisis that struck the world starting in 535. While the details varied from culture to culture, in broad terms the process of adaptation that ensued was remarkably similar, especially across Afro-Eurasia.

The key elements, many of which are familiar but which need to be seen as a connected set and from a perspective that does not necessarily privilege

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promoting his achievements in Alp crossing with references even to Napoleon, an indication of how vastly the world had changed in the mere century and a half since David’s portrayal.

10 Which I will admit is a less than attractive neologism. See Morillo, *War and Conflict in the Middle Ages*, for a detailed exposition of the argument summarized here.

the old imperial structure, were as follows. First, political fragmentation as the old empires broke into their constituent parts (or into new pieces defined in the course of the breakup). In the course of fragmentation, political power often moved down the social structure, effectively resulting in the privatization of what had been conceived of as public power. This was accompanied by a spread of militarization through the social structure, as the players on a more fragmented political playing field resorted increasingly to armed force to defend their positions and attempt gains. Thus, while the imposing façade of imperial military organizations gave way to smaller, less centrally organized military forces, making for a decline in the size of centrally raised and controlled armies, the total military deployment across all polities in a region usually increased and deepened. As fragmentation led to infighting among smaller states, hierarchical (state) control over network activity, including above all trade but also over the movement of peoples and ideas, decreased. This had the apparently paradoxical effect of stimulating economic development and activity to the extent, after some time, of rendering the resultingly more robust network activity harder (virtually impossible) to control by central authorities even when they reconstituted themselves. The difference between Tang Dynasty economic regulation, which followed the classical Han model of close supervision and restriction until the fragmentation of medievalization set in after the An Lushan Rebellion in 755, and Song Dynasty economic management, which rode (or managed) but did not control a massive wave of economic development that was well beyond Han-Tang style control, is illustrative of this part of the process. Meanwhile, more pervasively armed societies fought to establish new cultural identities, a process shaped from two directions. First, armed conflict itself acted as a discourse about identity that shaped the emerging societies; second, the rise and spread of the salvation religions solidified cultural identities in conjunction with armed conflict, creating societies with more deeply rooted cultures than had obtained in the earlier world.

The end result of the medievalization process was the production of societies that were, despite the less impressive political façade of fragmented successor states compared to the Great Empires, militarily, economically, and culturally more resilient than classical societies had proved in the face of the LALIA crisis. Greater depth of resources had replaced an impressive looking but shallow breadth of resources and political reach across Eurasia. Beyond the obvious European case of Rome and its successor states, two further cases illuminate this process. First, the Song Dynasty in China, in this account the first fully medievalized Chinese dynasty, despite having reestablished imperial unity, suffered



both in their own self-image and internal political discourse, and in almost all subsequent historiography, in comparison with the geographic extent and military reputation of the Tang. Yet the “militarily weak” Song fought the otherwise irresistible Mongol military machine (about which more in the next section) to a virtual draw, easily outlasting any other Mongol opponent. The Song were, in other words, a success story of medievalization.

The second example illustrates the opposite. The most significant society not to undergo medievalization was the Eastern Roman Empire, whose historiographical transformation into Byzantium was characterized by continued central control of state, society, and economy. The result was the most significant society of c. 1000 CE not to survive into the modern world. Its medievalization under the Komnenoi came too late to establish it securely in the world.

Was the process of medievalization as I have described it a military revolution? It is obviously not usually considered so, mostly because as described it is a new historiographical construct. But many of its constituent parts might have entered historiography as possible military revolutions. In favor of the notion of medievalization as a Military Revolution, one could argue that it produced a range of highly effective military forces: the combination of knights, castles, and urban infantry that was the key to western European expansion eastwards;<sup>11</sup> the many and effective armies of the medieval Muslim world; and the huge, bureaucratic, and technologically sophisticated forces of the Song. In other words, medievalization created a whole world of effective military activity. If no one of the new medieval cultures dominated the world (at least before the Mongols), that was because medievalization was a process that took place across Eurasia and therefore was not the exclusive property of any one society. Of course, properly global perspectives on the MREME must recognize that it too was not truly confined to one society or region of the world.<sup>12</sup>

Against the idea of medievalization as a military revolution is the fact that the military face of medievalization was, if not secondary to its character, simply one aspect of a complex of interlocked transformations that were also political, economic, and cultural, with no one of those areas convincingly capable of being put forward as the origin of all change. In other words, medievalization was not militarily driven or (often) even militarily focused, however much it

11 Bartlett, Robert, *The Making of Europe. Conquest, Colonization, and Cultural Change, 950-1350* (Princeton: Princeton University Press, 1993).

12 Lorge, Peter, *The Asian Military Revolution: From Gunpowder to the Bomb* (Cambridge: Cambridge University Press, 2008).

proved militarily significant right up to the level of the survival of entire societies. And, to return to the historiographical definition of Military Revolutions outlined above, medievalization was certainly *not* initiated by or driven by technological innovation. In short, it is a good thing (for me) that I am not proposing medievalization as a military revolution because such a proposal would — rightly — go nowhere.

### *The Mongols: Military Revolutionaries?*

The military significance of the Mongols is indisputable. For the bulk of the 13<sup>th</sup> century, the Mongols were an offensive juggernaut, bursting out of Mongolia under the leadership of Chinggiz Khan and conquering east, west, and south, and creating the largest contiguous land empire in world history, as noted above. There is no need to re-narrate their conquests here, but we can note that not only did the Mongols conquer, their conquests altered the shape of the medieval world. Although the net impact (positive or negative) of the Mongols economically can be debated (and the scale of their destructiveness is indicated by the small but measurable global cooling they caused from a combination of reducing the amount of land under cultivation and from the sheer number of human deaths they brought about), they also facilitated trans-Eurasian trade and cultural exchange via the Silk Road, an effect of the Pax Mongolica and their typically steppe-nomadic favoring of merchant activity, as Marco Polo's story attests. It is not implausible to credit the Mongols with creating the conditions in which a subsequent age of maritime exploration and trade, evident in both China and western Europe, would be pursued.

In other words, the creation of the Mongol Empire was a militarily driven event that had significant global impacts far beyond the purely military. Was this a military revolution? Nobody (as far as I am aware) has ever suggested that it was. What this may indicate is the Eurocentrism of the evidentiary base of the usual military revolution debates. But there are clearly more obvious reasons why the Mongol Conquests don't fit the usual historiographical profile of a military revolution.

For starters, although the conquests were unquestionably military, they did not have their origin in a specific military innovation, certainly not a technological one. Mongol armies were built around the same combination of horses and composite-bow archery that had formed the basis for the military effectiveness of Central Asian steppe nomadic peoples since the time of the Scythians and

Xiongnu.<sup>13</sup> Beyond technology, Mongol tactics were also traditionally Central Asian. Even their remarkable strengths in operational maneuvering over large distances, strategic mobility, and intelligence gathering were simply traditional Central Asian skills brought to perfection.

What really launched the Mongols to prominence and raised them above their steppe predecessors was not any one military innovation (technological or otherwise) or even a combination of them, but the socio-political change Temujin imposed upon the Mongol world in order to become Chinngiz Khan and cement his hold on power after a long and arduous struggle to establish his leadership. His *jasagh*, or law code, combined with his reorganization of Mongol kinship and tribal organizations to center them on himself and undermine traditional political allegiances brought an unprecedented level of unity to the steppe world. Since the internal fractiousness of the steppe world had always been the most serious limitation on steppe nomadic power, when Chinngiz solved that problem the Mongol conquests flowed almost naturally as a result. While an argument might be made that Chinngiz's innovations constituted the invention of a better "technology of social control", this is clearly not the sort of technological innovation envisioned by the standard military revolution paradigm. This point is further reinforced by the fact that even taken as a "technology", Chinngiz's innovations were not exportable in the way that actual technologies are. Nor were the actual technologies of Mongol dominance — vast herds of horses, mounted archery that gained its effectiveness from its practitioners spending their entire lives on horseback hunting and herding — any more exportable to non-steppe peoples.

Thus, the characteristics of the Mongol conquests either do not constitute a military revolution, or call into question the standard formulation of the concept in ways that would transform the concept so thoroughly as to render it unrecognizable. Perhaps rightly.

### *The lack of medieval military revolutions: considerations*

The characteristics of the two candidates for medieval military revolutions, and the reasons why they don't seem to qualify, offer a path into the question of why the medieval era witnessed no military revolutions. Both the medie-

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13 The domestication of horses and the invention of riding them probably constitutes the first, most important, and most unarguable military revolution, assuming we can count horses as a "technology".

valization process and the rise of the Mongols were at base processes of socio-political reorganization that had military consequences, but that were not militarily driven, especially not in terms of changes in military technology. Such reorganizations operated within a limited socio-economic scope for innovation, depended heavily on previously established patterns and structures of activity, and thus had limited chance to effect revolutionary change of any kind, never mind military transformation. We can look at this question more systematically, from the ground up, as it were.

The medieval era, whether as conventionally defined or from the climate-disease-demographic perspective I outlined above, sat in the middle of (and is therefore not mis-named as the Middle Ages!) a longer Agrarian Era in world history that began with the invention and spread of sedentary agriculture, especially cereal cropping, as the chief form of human subsistence around the world, and ended with the Industrial Revolution's transformation of all aspects of human subsistence and socio-political organization. The Agrarian world, for as long as it lasted, was characterized above all by limits: the limits of power sources for getting work, broadly defined, done, and the resulting limits of low productivity and slow communications that in turn constrained the possibilities of political organization as well as military activity.<sup>14</sup> Put another way, because of low productivity and slow communications, the Agrarian Era was the age of unitary political leaders — kings — from the time of the earliest Mesopotamian states through the *ancien regime*, which truly was even more *ancien* than mere European time scales knew, the occasional (and explicable) exceptions such as Athenian democracy notwithstanding.

Thus, in most places and throughout the Agrarian era, considerations of political power — the coercive exercise of authority in hierarchically structured societies — dominated considerations of exchange, especially economic exchange. (Thus, rents and taxes far outweighed commerce as the basic forms of economic activity in the Agrarian world, though global network activity rose steadily over the millennia as forms and knowledge of transport improved; medievalization accommodated this trend, largely unintentionally on the part of hierarchical power-wielders.) All of this added up to serious brakes on the spread of technological innovations that were more likely to disrupt established power structures than to aid them.

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14 Morillo, *War and Conflict in the Middle Ages*, Ch. 3, for a thorough exposition of this perspective.

The limitations of available motive power contributed their own constraints that shaped military activity directly.<sup>15</sup> Sources of power were three: wind, water, and muscle, and for military purposes almost exclusively the last, whether the muscle involved was human or equine. Technological innovations grounded in these sources of power, for example the counterweight trebuchet as an improvement on the traction trebuchet, were bound to be incremental rather than revolutionary. Furthermore, limitations of motive power explain much of the advantage the defense enjoyed in medieval warfare, especially siege warfare, as the defense could accumulate the products of limited motive power over time, as in gradually constructing a wall, that the offense then had limited time to try to bring down. (The counterweight trebuchet represented one of the few innovations in the offensive accumulation of motive force, as the large weight of the counterweight was also accumulated over time, whereas traction trebuchets depended on the sudden exertion of muscle power.) Similar considerations applied to much naval warfare, and the limits of muscle power, enhanced by bows and levers, constrained ground combat pervasively.

In short, the Middle Ages seen as a middle period of the long Agrarian Era of world history emphasizes fundamental elements of, if not pure stasis, then at least deep continuity, in economic production and subsistence, political organization, and military activity. Within such a setting, one would not expect military revolutions to take place once the fundamental elements of armed conflict — armed men, horses, walls, and ships — had been established in the pre-medieval ancient world.

The problem, and one central reason why the MREME has remained such a bone of historiographical contention, I suspect, is that this view also applies, in almost every way, to the period from roughly 1500 to 1800, which we can variously call (depending on the particular perspective chosen), the Late Agrarian Era or the Very Late Middle Ages, either being preferable to the “Early Modern” philosophical monstrosity. But the qualification “in almost every way” elides a key fact: gunpowder in fact constituted the first significant exception to the limitations of motive power that constrained the Agrarian era’s military tool kit. Gunpowder’s general character as a somewhat blunt instrument of motive force (it would be hard to run an internal combustion engine on gunpowder, for example, or more simply to make plowing a field easier using gunpowder) proved ideally suited to the sudden application of destructive motive force in warfare, where the offense was sorely in need of just such a tool. Is this not grounds for seeing the

15 Morillo, *War and Conflict*, Ch. 4.

basis for a Military Revolution in the spread of gunpowder technology?

What I will argue here is that the medieval background outlined here suggests that the problem is not just one of physics; if it were, the Revolutionary case would be far stronger. But the non-revolutions that were medievalization and the rise of the Mongols remind us that the cultural context, one that in the larger setting of socio-economic stability that I've just outlined was certainly going to tend towards continuity, is also critical to analyzing the impact of technology in war. It is to this perspective that I now turn.

### *War, Culture, and Military Revolutions*

One of the central arguments of my book *War and Conflict in the Middle Ages*<sup>16</sup> is that war and conflict can be productively viewed as forms of discourse that performatively created meaning, especially about group identities and social formations. This was, in fact, at the heart of the medievalization process described above: not the various material (or even cultural) manifestations of the process — political fragmentation, the spread of salvation religions, accidentally beneficial economic decentralization, and so forth — but that each part of the process was contested and so was often resolved through armed conflict, which contributed to the pervasive militarization that was also an end result of the medievalization process. The central role of discourse in community formation and definition can, of course, be seen much more directly in the records of the spread of the various salvation religions, in which written discourse and debate remains enshrined in the historical record. But ignoring the violent substrate of such discourse, and the discursive aspects of armed conflicts over power, inclusion or exclusion from a group, and so forth, gives us only a partial picture of the processes by which the various worlds that made up the medieval globe came into being. We need not re-examine these discourses in detail across the medieval world to recognize, once we see their role in this light, that their central character as creators of meaning and identity for the various societies of the medieval era had an important result for the spread of new technologies, given that this is a central feature of the Military Revolution paradigm: they created the context for the adoption of technological innovations and, because establishing meaning and identity is difficult and thus elicits strong defenses once they are established, made those contexts inherently conservative of the values already

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16 Morillo, *War and Conflict*; see especially Chs 5-7, which examine the variations in armed discourse across the medieval era.

established. The character of armed conflict as a form of discourse, therefore, created a strong tendency for new technology — indeed for any new forms of military activity — to be fit into culturally established patterns so that they did not threaten established structures and identities. No matter how revolutionary gunpowder weapons were from the perspective of physics, in other words, the people using them were doing their best, consciously or not, to use them in ways that fit conventional understandings, even if they fit more efficiently into those understandings.

It was, indeed, through incorporation into established cultural systems that new technologies were given meaning and seen as useful: military tasking is a cultural construct, after all, and therefore shapes the perceptions of new tools. This is perhaps simply to restate, but also to derive from more fundamental cultural processes, the long-recognized fact that the adoption of new technologies in different societies was heavily shaped by the cultural (and material) contexts into which they were introduced. But it also gives us another angle for evaluating claims for some development to be a Military Revolution.

Take our two potential medieval military revolutions as examples. In introducing this perspective above, I have already dealt with “medievalization” as a potential military revolution. Medievalization was, as a process, fundamentally about the establishment of new social constructions and cultural identities through armed discourse (often in conjunction with religious discourse). While armed conflict was thus central to this process, military efficiency per se was largely irrelevant to its outcome. In other words, medievalization did not involve military competition for its own sake (the context in which revolutionary military change would potentially make sense), but cultural competition carried on, in part, by military means.<sup>17</sup> In short, neither the motivations nor the outcomes of the medievalization process were at root military, and the process consequently fits badly into a military revolution framework.

The Mongols as a military revolution also looks unlikely from this perspective. The sudden Mongol expansion under Chinggiz Khan arose from intra-Mongol military competition over the leadership of an established world, competition carried on using well-established military tools with well-established cultural meanings that ultimately worked to affirm Mongol identity. That Chingghiz Khan could, once he had established his leadership of that world,

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17 The substitution here of cultural competition for politics in Clausewitz’s famous aphorism involving “an admixture of other means” is intentional and highlights that changing this context makes a significant difference to the implications of the phrase.



transform its socio-cultural structures to his own benefit with the result that the Mongols gained a unity of structure and purpose that allowed their world conquests did not depend on military means. Many previous steppe leaders had established leadership over large confederations of steppe peoples through the same military means Chingghiz used, without then bringing about the sorts of transformations Chingghiz managed. His feat was political and cultural, not military, with a focus on such fundamental concepts as kinship and identity, within a long-established steppe cultural tradition. Nor did his feat bring about any transformation of steppe military practices. It simply made them vastly (revolutionarily?) more effective, an effectiveness measured not militarily but politically.

The limits of the Mongol achievement can be seen clearly from the cultural perspective as well. Despite Chingghiz's transformation of Mongol political and cultural structures and identities, these transformation only lasted within the steppe cultural context in which they were born. The Mongols as conquerors proved just as culturally malleable as all previous steppe nomadic conquerors had been, converting to Islam in the realm of their conquests of Islam, and to Chinese cultural forms in China. If they did not convert to a Russian-Christian cultural identity in that region of their conquests, that was largely because the Russian/Kievan/Orthodox cultural world had not been fully formed when it fell to the Mongols. But even there, the roots of later Russian culture lay far more in its sedentary-religious ancestors than with Mongol culture, which in fact was constructed within Muscovy as a foil for the development of Russian identity. In short, military success even as vast and sweeping as that of the Mongol expansion did not carry with it revolutionary consequences grounded in the cultures and technologies of the conquerors, at least in the sphere of political culture. (Mongol economic impacts are undeniable.) The contrast with the alleged achievements of western imperialism under the banner of the MREME is obvious, showing that the Mongols do not fit the military revolution paradigm, no matter what the value of that paradigm for understanding actual European military developments and their consequences in the age of gunpowder is.

### *Conclusions*

I believe this examination of the "medieval baseline", against which the military developments of the period after 1500 must be viewed, shows two fundamental things about the historiography of the MREME.

First, there is a strong need to pay attention to the materialist background



of the MREME in order to assess claims for its revolutionary impact. From the medieval perspective there was a fundamental continuity of human subsistence and economic activity from the medieval era (conventionally understood) into the post-1500 world. The key transformations at that level were to the scope and impact of global network activity in the wake of the incorporation of two previously isolated continents into the established systems of Afro-Eurasian exchange, transformations that had little to do with European military capabilities, especially in the realm of land warfare. This set of transformations in global economic activity constitute the strongest argument for seeing the period 1500-1800 as a separate “Late Agrarian Era” in world history.

The limits of this transformation, however, are equally clear, and constitute the elements of an argument for seeing the world of 1500-1800 as part of a “very late medieval” period. No matter the global economic developments of the period, they did not transform the fundamentals of human subsistence and the political structures that would be built on them. Despite potatoes, grains still formed the foundation of state building across the globe. And so kings still ruled everywhere, in hierarchical association with small privileged elites, over masses of subject laborers. (Furthermore, the classically Agrarian rule that labor shortage leads not to higher wages but to lower labor freedom certainly still applied in the newest and most active part of the new global network, the Atlantic World). Given this fundamental stasis, the medievalist is forced to ask where the revolutionary transformative effects of a military revolution are to be seen?

Second, and perhaps even more importantly (in particular for historiographical analysis), the medieval baseline urges attention to the cultural contexts and *meanings* of military change, especially change based on the introduction of new technologies, in order to assess claims for a revolutionary *process* having taken place. The entire medieval experience of transformations (such as the medievalization process that gave birth to the medieval world) and far-reaching conquests such as those of the Mongols speaks to the power of armed discourse to create and then reaffirm through performance cultural identities within which technological innovations had to be viewed. That is, analyses of the MREME must, from the medieval perspective, pay close attention not to the usual “political science” analysis of the “goals and purposes” of war, focused on state power, international relations, and so forth, but to the performative aspects of military activity through which the cultural identities of groups *and their constituent subgroups* were established, reinforced, and maintained.

From this perspective, even if it is true (in some circumstances) that “states

made war and war made states”,<sup>18</sup> the meaning to the participants of how states and their constituent parts made war also matters, perhaps more than what the results were for state building and the international order. Because from that perspective, very few military practitioners ever want a true revolution, as revolution would hold more danger to established structures, or stable hierarchies, and the positions (of elites, above all) within those hierarchies, than they held promise for advantage against external enemies.

In sum, this medievalist’s perspective is to view with skepticism claims for a Military Revolution of Early Modern Europe. The context for militarily revolutionary change in this view looks unfavorable, with strong incentives for new technologies and techniques to be adopted into an already established web of meanings. And the context of an “Early Modern” Europe looks very much in this view like a post hoc edifice grounded in outcomes unforeseeable at the time, outcomes that became central to later constructions of “modernity”, and so fails to capture the fundamental continuities of a Late Agrarian or Very Late Medieval world that was ongoing long past 1500.

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18 See Morillo, “The Sword of Justice: War and State Formation in Comparative Perspective”, *Journal of Medieval Military History* 4 (2006), 1-17, for an analysis of the cultural blind spot in Charles Tilly’s classic aphorism.

## Moving Beyond the Military Revolution at Sea<sup>1</sup>

By ALAN JAMES

Naval history has a peculiar relationship with the Military Revolution. On one hand, Michael Roberts was almost completely silent on war at sea in his original formulation of the thesis in the 1950s. On the other, Geoffrey Parker fully embraced it as a key pillar of his expanded thesis in his book of 1988. Since then, there has been critical work on changes in naval warfare that echoes that done on war on land, but there is a sense that this discussion has occurred mostly amongst a limited number of naval historians who remain at the margins of the main debate. This distance is curious because the thesis fits very well with the historical development of naval power and, in many ways, appears to act as a better explanatory model of change in war at sea than on land (Black, *Naval* 47). Yet if sea power has been kept at arm's length and naval historians themselves have generally been reluctant to embrace the Military Revolution thesis, this is not due to any sense that it was any less significant than the escalation of war between armies in the early modern period. On the contrary, as the key to the development of global trade and empire and of strong, economically resilient states, the history of naval warfare almost sets itself up as a parallel, or alternative, explanation of modernity. Whilst this potentially offers a privileged platform from which to challenge the Military Revolution, this history of sea power, with its range of purposes and effects, seems to have encouraged instead a parallel, unspoken, permissive affinity with it and its modernising, causal logic. Thus, although in many ways the Military Revolution debate might seem to have largely run its course, there is a particular need for naval history to re-en-

<sup>1</sup> The writing of this paper was made possible by a FIAS fellowship at the Paris Institute for Advanced Study (France) and by funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 945408, and from the French State programme 'Investissements d'avenir', managed by the Agence Nationale de la Recherche (ANR-11-LABX-0027-01 Labex RFIEA+). It has also benefited greatly from a fellowship under the 2022 'Directeurs d'études associés' programme (DEA) of the Fondation Maison des Sciences de l'Homme (FMSH).

gage. We cannot move beyond it definitively without identifying and addressing the residual influence of its main conceptual weaknesses (Black, *Beyond* 'Introduction'). Assumptions about the influence of technology or innovation, for example, make it difficult to tackle important questions about motivation and purpose in war and in imperial expansion and to appreciate the complex and varied strategic environments globally in which sea power operated. Naval history has an essential role to play in understanding the forces that shaped the early modern world. To do so fully, it must take its place at the heart of this debate about causation and change in war.

Fighting on water involves many uniquely difficult challenges that were unknown to early modern generals on land. There, warfare remained broadly familiar, despite the general escalation in the sixteenth and seventeenth centuries. At sea, however, far more innovation, adaptation, and invention was required (Palmer 123-25; Rodger, *Fiscal-Naval* 120). For Geoffrey Parker, it was relatively straightforward to apply the framework of the Military Revolution to these genuinely dramatic changes. Just as he argued that the introduction of heavy cannon by the late fifteenth century affected the design and structure of defensive fortifications on land, so, too, did bigger guns affect the construction of warships. A sturdier, more effective structure was needed to incorporate them. Heavy guns needed to be located close to the waterline and along the broadsides, and this eventually led, in turn, to the development of line-ahead formations in battle to maximise their offensive use. This technology-driven tactic of the seventeenth century, it could be said, was the direct equivalent of the disciplined, linear formations and volley fire by infantry on land that Roberts identified at the core of his original Military Revolution thesis. It was a logical, and successful, tactical response to these changes, and sailing 'ships of the line' along with the complex institutional structures to support them remained standard features of naval warfare throughout the age of sail (Palmer). In this sense, there was an almost perfect mirror image at sea of the celebrated, long-term military developments that occurred on land, and it would appear, therefore, that the Military Revolution fits early modern naval power like a glove.

Accordingly, the wider, protracted debate about the Military Revolution has always had room for naval historians, though, arguably, they have not attracted due attention. There is no need to outline the contours of the main debate again here, but it is worth reminding ourselves that most of the criticisms of Roberts' thesis have been about the timing, or location, of the so-called revolution without necessarily addressing the fundamental, conceptual logic which is that tactical and technological military innovation leads naturally to the escalation

of war and to a transformation, and modernisation, of society more broadly. On many occasions, alternative military innovations have been identified as the more significant historically. Indeed, one of the most familiar objections to emerge is that so many different innovations have been credited over so many centuries that the suddenness and decisiveness implied by the term 'revolution' can no longer be considered appropriate for describing what was, in effect, regular evolutionary change. As for changes at sea, John F. Guilmartin provides a good summary of four principal technological developments: the caravel and then fully-rigged ships from the fifteenth century; the accommodation of heavy guns on Mediterranean galleys in the sixteenth century; the galleon, which combined manoeuvrability with solidity and gun decks and stowage that allowed long distance voyages; and the seventeenth-century ship-of-the-line which was bigger and designed for broadside gunnery (Guilmartin). The significance of these developments is not disputed, though most historians follow the lead of Jan Glete in rejecting the idea of a revolution. His detailed and influential study of the many changes that occurred in all modern navies over three and a half centuries certainly makes the case for evolutionary, or at least irregular, change (Glete, *Navies*). Louis Sicking, too, dismisses the idea of revolutionary change settling on the more appropriate and nicely nuanced term 'naval transformation' (Sicking 263).

Despite appearing to sit inconspicuously within the debate like this, the history of war at sea actually offers a unique perspective from which to consider the escalation of war and potentially to launch an especially critical assault on the Military Revolution thesis. Most notably, the wide-ranging nature of sea power, which was built upon the manipulation of maritime trade and violence, exposes the implicit technological determinism of the Military Revolution and its emphasis on battle. Such a focus really offers little of interest to a naval historian. After all, navies actually took part relatively rarely in open combat with each other at sea. Moreover, the institutional complexity and cost required for a navy meant that they were clearly the product of deliberate policy decisions, careful long-term planning, and significant investment. In other words, the emergence of modern navies was the result of political decision-making. It was not just an inevitable expansion of violence at sea following directly and inevitably from technical innovations or tactical insights. Above all, the slowness with which change was adopted suggests a key failing of the thesis. Sicking, for example, does not simply argue that there was continuous transformative technological innovation. Rather, he reminds us of essential continuity with such things as the reintroduction of galleys in northern waters from 1520 and the continued heavy

reliance by all powers on converted merchantmen in war. In particular, he notes just how long the adoption of the familiar line-ahead tactics actually took. The conservatism he describes hints at what N.A.M. Rodger develops more forcefully and which David Edgerton has made explicit in reference to the twentieth century: new technologies do not drive modernising change (Edgerton; Rodger, *Fiscal-Naval* 120). In war, old, reliable, and established technologies are far more influential than new innovations which are much more effective at attracting the attention of future historians keen to indulge their faith in modernisation theories than at materially affecting the conduct of war. Heavy guns may well have led to line-ahead tactics and broadside gunnery, but that process took nearly two centuries or more, and the causal influences are unclear. It was not until the late seventeenth century that the line of battle was firmly established, and even then it was only one aspect of warfare at sea (Rodger, *Broadside* 301-24).

One thing that has sometimes been underplayed in the rush to identify alternative military revolutions in the past is the unambiguous emphasis in the original essay by Michael Roberts on the wider social and political effect of tactical and technological change. This is the measure by which a set of military developments can be deemed 'revolutionary', arguably making the broader outcome of any given change the key issue rather than just its specific technical characteristics and the suddenness or otherwise of its successful application in war. It is primarily in this respect that naval history stands apart.<sup>2</sup> For Roberts, modernity was defined by World War Two and 'the abyss of the twentieth century'. His interest, therefore, was in explaining the origins of the warring nation state and the horrors and extremes of industrial warfare 'in all its malignity' (Roberts 29). By and large, however, for naval historians, modernity is not embodied in the rise of the continental, bureaucratised, and centralised monarchies that he saw emerging from the pressures of escalating war at all. The modern world has been shaped by global trade, industry, and international order, all seemingly built around the historical spine of American, British, Dutch, and perhaps even Venetian expansion of overseas markets and the development of sea power to protect them. To be sure, this reliance on sea power also transformed the character of war. As Gijs Rommelse argues, the rise of modern naval powers was instrumental in creating wider strategic change in pursuit of what he calls 'economic reason of state'.<sup>3</sup> One need only look ahead to the defeat of Napoleon

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2 The work of other historians of war more recently such as David Parrott has challenged the modernising impact on states of increased army size in different contexts (Parrott, *Army*).

3 Rommelse credits Jan Hartman and Arthur Weststeijn with this phrase (Rommelse 139).

and the essential contribution of sea power and Britain's economic strength and the coalitions it led against France to make the case that Michael Roberts not only credited the wrong innovations as the drivers of change, he did not recognise the truly revolutionary outcome of the growing pressures of warfare in the early modern period.

For Michael Roberts, then, the emergence of modern navies was largely incidental, and he mentioned them only in passing. Unlike the growth in army size, he did not see them as a major source of the centralising change that concerned him. Navies were already 'royal', long before armies. They fit his thesis only in the sense that they, and 'ships of greater sea-endurance', were 'a consequence (but also a cause)' of the greater 'efficacy' of economic warfare which was, primarily, an effect of the main military revolution on land (Roberts 22, 26). Of course, early modern navies were indeed often closely associated with the monarchies that owned and developed them (Davies, *Kings*; Bellamy). They were powerful symbols of royal status, but they had a far greater reach, and their impact simply cannot be accommodated by the limited, subsidiary role ascribed to them by Roberts. Today, for example, there is a growing appreciation of the importance of mercenaries and contracted war on land, but a major theme of naval history has always been the difficult balance that had to be struck between often quite limited practical royal authority at sea and private violence through the encouragement and attempt to control and direct privateers and others (Parrott *Business*; Thomson). Equally, in addition to economic warfare and global imperial and trade networks, much of the best work in naval history explores the fiscal and administrative challenge of navies or the mechanics of the close link between war and finance at all levels of society. Indeed, the growth of the extensive, complex, and often secretive world of financiers, tax officials, and investors that made the support of navies possible represents as much a political and social impact as a military one (Dessert). This was one aspect of the pervasive influence of sea power on a society, but it goes further. War was, of course, the traditional marker of nobility and social standing. Yet, with the general escalation of the early modern period, international war poured out onto an element upon which normally only merchants and pirates previously plied their trade, at least in northern waters. The reverberations occupy the attention of much naval history with its emphasis on the social structure of navies, professionalisation, or life below decks or on the influence of sea power on community and national identity more broadly (Fury; Scott).

So far from being just a functional arm of a state's military power, then, navies and their development can only be understood as a wider, social, and cultur-



al phenomenon. Since antiquity, taking advantage of the military and economic opportunities of the sea required an exceptional strategic commitment, creating a different sort of state, a 'seapower state' as described by Andrew Lambert, with a different approach to war, trade, and political organisation. One of the greatest effects of early modern escalation was not just the growing dependence of such states upon their naval power but the wider diffusion of its perceived need internationally. Navies quickly became recognised everywhere as a necessity for any aspiring power with the opportunity to create and support one. For Jan Glete, there is no doubt that this was an important modernising force, though he argued that it was not a function of technology or tactics but of the capacity for complex organisation and fiscal strength.<sup>4</sup> Arguably, Glete's most influential contribution is the concept of 'interest aggregation' which describes state formation as a consequence of a careful alignment of varied interests in a society. His comparative study of European states supports the idea that the basis of long-term success at sea was the integration of royal policy with the experience, energy, and investment of the private interests who animated the maritime economy (Glete, *War* 53-4). The logical extension is that, in contrast, the top-down development of naval power to suit the shorter-term foreign policy interests of monarchs was bound to be less flexible and less durable.<sup>5</sup> Important work on fiscal-military states in the eighteenth century has shown that states of all stripes were variously able to get access to the finances needed for war.<sup>6</sup> Yet, the lesson from naval history seems to be that the states that most successfully managed the pressures of the escalation of early modern war were those that were most flexible and which accommodated themselves to the demands of sea power and took advantage of its potential political popularity. They not only incorporated private violence at sea into their strategic outlook but evolved to allow the influence on government policy of the monied elites of society with an interest in maritime trade.

The unique challenge of the escalation of war at sea, therefore, had enormous potential impact on the political, economic, and even social structure of states.

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4 Previously, Jeremy Black credited the successful adaptation of the state by the late-seventeenth and eighteenth centuries as the key innovation and necessary precursor to the rise of the truly enormous armies of that century, effectively reversing the causal relationship between political and military change (Black, *Military Revolution* 90-91).

5 However, the case has been made that there was a military, political, and cultural shift in the decidedly continental and absolutist France of the early seventeenth century and its embrace of naval power which has been described as revolutionary (Vergé-Franceschi).

6 For Bourbon Spain, for example, see Torres Sánchez.



The technological challenges of modern warship construction, for example, not to mention their armament with heavy cannon, required unprecedented industrial and infrastructural support in regional centres. Logistically, all fitting out, victualling, and supply had to happen all at once, at the start of a campaign, and in these and other ways the growth of naval warfare posed unique difficulties. Yet as Rodger explains, the response was not necessarily greater centralisation of royal authority. Indeed, the concept of the 'fiscal-military state', he says, was developed by John Brewer to address the evident, relative success of Britain as a limited monarchy and parliamentary power in the eighteenth century. Yet what really made Britain exceptional, Rodger claims, was not any inherent constitutional advantage or structural capacity to raise capital but its extraordinary political commitment. Specifically, it was the prodigious financial investment in its navy that made Britain a leading economic and military power. Borrowing a phrase from Patrick O'Brien, he thus goes further and describes the outcome as something more. Britain was perhaps more appropriately a 'fiscal-naval state'. In this way, Rodger's excellent critical assessment effectively displaces the Military Revolution altogether. In its place is another explanation for modernising change, one that accounts for this leading economic and political success based upon investment in naval power.

From this point of view, it is the very nature of naval warfare itself, that 'capital-intensive, high technology mode of warfare', that accounts for the rise of industrialised states and thus of an even more recognisably modern world (Rodger, *Fiscal-Naval*, 122). In many ways, then, despite fitting in some superficial ways to the Military Revolution thesis framework, war at sea potentially demolishes it, not just in terms of questioning the determining role it gives to technological innovation but in the wider outcomes that it purports to account for. Indeed, it is this truly extraordinary transformative potential of sea power that appears to elevate it beyond the explanatory reach of the Military Revolution. However, to attempt to transcend the thesis in this way is not necessarily to be liberated from its conceptual logic, and it is actually this apparently modernising nature of sea power that keeps naval history from otherwise leading the historiographical charge against it. Indeed, it retains enough in common that naval historians have largely turned a blind eye to the greatest excess of Parker's thesis which is that the Military Revolution, along with the necessary developments in navigational technology and gunnery, contributed directly to the 'rise of the west'. The appeal of the intuitive logic that military innovation at sea provided a lasting advantage in a contest of global hegemony has gone a long way to sustaining the residual influence of the Military Revolution. Indeed, it is

the essential Eurocentrism of the Military Revolution that remains the key target within the wider debate such as it still is today. For example, the most strident attempt to write the final obituary of the thesis described the Military Revolution in 2016 as 'an artificial construct' that attempts to 'explain the dominance of the West in the age of colonialism' which should never be employed again (Jacob and Visoni-Alonzo 1).

To Geoffrey Parker, it seemed clear that naval warfare was a driver of modernising change. It offered him an irresistible opportunity to expand the reach of the original thesis by presenting it, not just as an interesting parallel at sea, but as a key element in this much greater transformation which led to European domination of the world. This required 'fortifications and armies as well as ships', though ultimately it was 'the quality of European guns' that was the main difference (Parker 115, 128-9). Although he was conspicuously unsuccessful, Parker clearly went to considerable lengths to ensure that his was not a Eurocentric account. He tried to do this, in particular, by crediting Asian military innovation and the scale of early modern Asian warfare. The naval revolution, for example, did not just occur in Europe, he says, but with the large-scale, modern naval warfare and technical innovations involved in the Korean resistance to the Japanese invasions of the 1590s (108-9). Parker also acknowledged the great ships built by Aceh and, later, Oman, though it was the transfer of imperial power between the Ming and the Qing dynasties in the seventeenth century that really makes the point. Zheng Chenggong, or Coxinga, led the Ming resistance in part by dominating the seas and had a fleet by mid-century of 'some 2000 warships and well over 100,000 troops'. With this, he was able to defeat Dutch forces on Taiwan before ultimately succumbing to a large Qing navy by 1681 that finally consolidated control of all of China (112-14). Indeed the final chapters of Parker's *Military Revolution* credit the three main Asian powers with adopting all of his favoured military developments to good effect. It could even be said that, in many ways, they got to the Military Revolution before the Europeans, and the effects were even more dramatic. 'The peoples of East Asia', Parker says, 'were able to keep the West at bay throughout the early modern period because, as it were, they already knew the rules of the game. Firearms, fortresses, standing armies and warships had long been part of the military traditions of China, Korea, and Japan' (Parker 136).

This praise serves Parker's argument well, of course, because it reinforces the universal applicability of the thesis itself and the significance of the specific military innovations upon which it is built. He also makes it clear, however, that for him there is only one perspective from which to assess these developments.

There is one universal 'game' and that is to develop weapons and tactics and all manner of offensive firepower as part of a contest with the West for global military and economic hegemony. In other words, regardless of the dynamics between the Asian powers themselves or the seismic political shifts represented by these wars, keeping Europeans 'at bay' is their presumed priority. Thus, Parker says, Asians did well 'when Europeans lacked a military presence' (108), and generally, once peace was restored, military innovation and related modern state development largely stopped. A 'distinctive world order' was established (144). Qing China did not go on to become a great naval or imperial power in the western fashion, for example. Likewise, Japan with all of the advances in volley fire and fortifications that he described did not become a gunpowder empire. Without exploring the nature of that alternative 'world order' or its relationship to military innovation, Parker could declare his familiar winners and losers of 'the game'. The rhetorical purpose of celebrating Asian military successes, therefore, was clearly to highlight the negative consequences of choosing in the long run not to pursue these military innovations to what Parker sees as their natural conclusion thereby putting the subsequent success of Europe to dominate the world into even sharper relief.

In its unvarnished form, Parker's model is not openly embraced by naval historians today, of course, nor indeed is the determining influence of the gun in Cipolla's account of European expansion. Similarly, no one would be uncomfortable with the more general, current assault on the eurocentrism and determinism of the once unassailable paradigm of the 'rise of the west' and with the integration of non-Europeans into the history of the modern world and as agents within their own histories. Indeed, much contemporary work makes the very strict limits of relative European military power clear. Nevertheless, a silent complicity that quietly reinforces the conceptual foundations of the Military Revolution can still be detected. Jan Glete's assessment of the early Portuguese attempts to establish themselves within the trading networks of the Indian Ocean from the late fifteenth century is an example. Portuguese efforts are not described by him as an attempt at conquest nor even as European military competition exported abroad. The Portuguese arrived as violent, monopolistic traders. Moreover, like Parker, Glete is not dismissive of the existing powers in the region. He describes them as such, with developed economies and politics, and he recognises that the Portuguese were not powerful enough to defeat them. Still, the gun gave them a crucial, initial advantage that allowed them to integrate and to control their maritime trade. In his analysis of the initial naval battles in the region, such as at Diu in 1509, he stresses the importance of Portuguese guns and the willingness

to use them effectively to enforce a monopoly of the carrying trade. If these guns and the ships that carried them cannot be credited with the establishment and subsequent development of European dominance, he argues, they were at least still an essential, key enabler of European success (Glete, *Warfare*, 76-88).

Glete does not attempt to re-lay the technological foundations of Parker's Military Revolution thesis. Still, his assessment helps to sustain a bigger picture of the modern world shaped largely by the European states who invested so conspicuously in the organisation of sea power and who pursued overseas trade and empire with such consistent and grim determination. More than this, it shares similar assumptions about the strategic purpose of sea power. The Gujaratis and others in the region are not presented as incapable of developing sea power; they were simply not interested, Glete says, in what seemed to them to be a marginal concern. As for Portugal, despite their successful and innovative use of the gun to establish themselves in the region, they eventually mysteriously disappeared from view. Within a century, they were displaced in the Indian Ocean by the more innovative, commercial, and violent Dutch. Portugal, he says, initially had the ambition but 'after a promising start it left the game' (Glete, *Warfare* 84). In other words, Glete measures success at sea against the extent to which a power laid the foundations for future global economic hegemony based on sea power. This reveals the influence of the Military Revolution thesis, based as it is on the assumption of a universal strategic ambition of hegemony. This thoroughly Realist perspective assumes a world in which people in all situations aim, or ought to have aimed, to take advantage of every opportunity to increase offensive capabilities and to apply them to the pursuit of global economic and military dominance. Again, if there is a single presumed 'game' in this way, then the winners and the losers become all too easy to identify, and existing assumptions can get further entrenched.

Jeremy Black has already called for naval history to adopt more non-European perspectives and to explore the variety of effective, if sometimes unfamiliar, uses of sea power to meet different strategic aims in global history (Black, *Beyond* 151). Though it need not fly in the face of the facts of European strength, this is needed to provide a fuller, more realistic picture of how naval power has actually been employed in the past as opposed to just variations of the exceptional European experience. Yet to challenge the Military Revolution abroad in this way is not to simply reverse it and to credit non-European innovations (Jacob and Visoni-Alonzo; Lorge). This is far too similar in approach to Parker himself and risks inadvertently reinforcing the causal logic of the thesis and the accompanying strategic assumptions. In an ambitious book of 2019, *Empires*

*of the Weak*, the political scientist, J.C. Sharman, set out explicitly to end Eurocentrism within global history altogether. It is an indication of the remarkable resilience of the thesis that, despite being at the receiving end of decades of critical debate, Sharman still chooses to do this by setting his sights so squarely at discrediting the Military Revolution with a series of by now familiar criticisms rather than elaborating upon other experiences and ‘the primacy of ideas, legitimacy, and culture’ in other parts of the world which he says has been overlooked (Sharman 7).

Sharman’s book offers a very effective reminder, should one still be needed, that the military balance was often not in favour of Europeans, that at all times they required private companies and the co-operation and support of non-Europeans in order to sustain any sort of overseas presence at all, and that ‘the greatest conquerors and empire-builders of the early modern era were, in fact, Asian empires, from the Ottomans in the Near East, to the Mughals in South Asia, and the Ming and Manchu Qing in China’ (Sharman, 2). On its own, however, this takes us no further. Indeed, it actually stops short of being the fatal blow to the Military Revolution thesis that he hopes it will be by applying the same standards of success. Writing over thirty years after Parker, Sharman’s relentless focus on European failings allows him to declare a different winner (or, rather, to declare the European empires ‘of the weak’ as the losers). He does this simply by questioning the effectiveness of any specifically European military revolution at home or abroad. In both cases, however, assessments are made on the basis of the extent to which an assumed European-style ‘game’ of global domination played out. For naval history to genuinely move beyond the Military Revolution and to contribute to a balanced understanding of world history it needs to recognise and to shed any of its lingering influence. This includes what Sharman refers to as a ‘Eurocentric bias of place’ and a ‘bias of time’ which focuses one’s explanatory gaze backwards, uncovering in the past evidence that can be linked to a chosen historical outcome (Sharman 23). In the case of naval history, this is invariably the British state, its Empire, and the Royal Navy of the nineteenth century. The challenge, therefore, is not simply to rehearse criticisms of the Military Revolution thesis or even to provide broader geographical and historical coverage of naval warfare for its own sake. It is to ensure that there is a genuine exploration of the different contexts and strategic purposes of sea power.

A lead might be taken in this respect from the popular field of imperial history in which a conscious and purposeful attempt to ‘decentre’ global history has taken place, removing Europe from its privileged position as the source

of global change (Wilson, *Histories*). Due to the reach of sea power and its essential part in sustaining European empires, naval history is in many respects a natural bedfellow of imperial history, and yet the two remain surprisingly discrete as fields of study. This is partly because it can seem difficult to 'de-centre' naval history in a similar way because of the demonstrable fact that from the late fifteenth century Europeans developed deep-sea power projection capacity and the world's most powerful modern navies along with the policies, systems, and structures to operate them. Yet a similar challenge faced imperial historians who now accept that empires were not simply conceived and imposed but the product of many different relations of power and of influences that go in various directions. Empires also needed to be imagined, legally and constitutionally. Rather than arising from the bare logic of superior force of arms, they needed a legal justification and an ideological foundation (Armitage). Lauren Benton's important work, for example, explores the many legal complexities and uncertainties involved in fashioning early modern European empires, with their uncertain or non-existent boundaries, ongoing tensions and negotiations, and constant ideological and legal re-imaginings. More properly corridors of relative influence, empires no longer fit the once unassailable notion of the discrete, expanding empires that extended European sovereignty by some inexorable military or economic logic. Yet a similar re-thinking can apply to navies. To develop a navy was as much an act of governance as of war. Navies, too, were sites of contested authority and of perennial juridical battles between central and regional or local interests (James, *Navy*). Thus, naval warfare should not be contextualised simply as a discrete force emanating from Europe and acting with various effects upon the rest of the world. Sea power was embedded to some degree everywhere, and it was but one aspect of the evolution of societies and their interactions, at times significant, but not with a privileged influence. As reminder to keep the impact of naval power in perspective, Black points out, for example, that the fall of the Ming dynasty, perhaps the most momentous political shift in global history in the seventeenth century, did not initially have a significant naval component (Black, *Naval* 39, 42-8). To 'de-centre' naval history, therefore, is not to ignore European developments but to interrogate the role of sea power in different societies and the assumptions about its relative strategic value at any time.

It can also seem difficult to challenge the technological foundations of the Military Revolution given that navies have often also been right at the forefront of technological and scientific developments. It is, therefore, worth building on the existing criticisms of the technological assumptions at the heart of the Mil-



itary Revolution thesis by Rodger, Sicking, and others. Yet the question should no longer be how well early modern navigational technology fit the Military Revolution thesis, but simply how navies were affected by the natural environment and by scientific and technological advances more generally. Imperial History can provide a lead here, too, specifically its relationship with the history of science. For many years, technological determinism of any sort has been challenged within Science and Technology Studies (STS) which sees new discoveries or advances not as emerging spontaneously as part of an exaggerated sense of human agency and ingenuity but as part of various shared networks of mutual influence and of a receptive intellectual environment (Felt et al 1-26). It no longer aspires merely to provide evidential support for simple models of modernisation or to celebrate human advancement. The social construction of technology, as it can be described, does not simply help explain what made overseas activity possible, therefore. It provides insight into the assumptions and motivations that drove it in the first place and which illuminate the complex, interactive emergence of global systems of power. In the eighteenth century, as the most obvious illustration, imperial competition in exploration, cartography, astronomy and other endeavours was, among other things, a competition for an understanding of the mysteries of the natural world. Scientific knowledge became a mark of national vitality and a measure of relative international standing in much the same way that standing armies or navies were. Science developed as part of the imperial experience. It shaped, and was shaped by, empire (Wilson, *Government*).

Many naval historians already recognise the value of scientific knowledge as a defining feature of naval power in a similar way (Scheybeler). Significantly, too, they are also re-thinking the relationship between navies and the natural world. In Olivier Chaline's *La mer et la France*, the sea shares some of the non-human agency that actor-network theorists like Bruno Latour say is necessary to understand social activity. It is not treated simply as something for human innovation to master, but as an often hostile actor itself. In Chaline's hands, the tides, the winds, and other obstacles become active players in the international competition in which France took part. From such a perspective, the technological marvel of the modern warship pales against the enormity and the regularity of the daily challenges faced by the workers and sailors who struggled with the elements. As he demonstrates, the relationship between France and the sea was complex and fraught and the implications uncertain. Whilst this will often put advances in maritime technology and mastery over the elements into sharper relief, it also emphasises the limits of human activity and implicitly

challenges any determining role given to innovation. Such an approach, applied not just to France but to societies globally would expose the various conditions that affect the adoption of scientific and technological developments and leave very little oxygen for the Military Revolution thesis.

Closely related to this, the biggest step historians can take to re-evaluate the relationship between sea power and technology is to overcome the concern that Sharman echoed from Black which is a 'paradigm diffusion model of change' (Sharman, 19; Black, *Rethinking*). According to this, military innovations are assumed to be universally advantageous and thus to spread outward naturally to the rest of the world. The only question this leaves for historians is, presumably, how quickly or how well. Hendrik Spruyt's work on competition and the emergence of the nation state as the dominant political form in the European state system is useful in this respect. Among his main themes is indeed imitation. Yet, power was not the principal factor, and military innovation was not what was emulated necessarily. Indeed, stronger, militarily-advanced states did not simply prey on weak ones. They emerged out of a process of 'institutional mimicry' and mutual recognition (Spruyt, *Sovereign* 155-58). In other words, there was competition and imitation but this was over legitimacy and the political forms that seemed to embody it. War, of course, traditionally functioned as a means of establishing legitimacy, and military advances and other innovations were, naturally, applied to this end. Equally, others may well have imitated these advances for the same reasons. Yet by recognising this as only one aspect of a wider competition and mimicry of form and substance for political legitimacy denies military innovation of any automatic tendency to diffusion around the world.

This perspective helps us to see that the rise of sea power as a staple of the eighteenth-century international system was not just because navies created a threat that needed to be matched by others. Slowly, the value of navies and the commercial empires they protected began to change the very standards of a successful state itself (James *et al* 59-86). Sea power was valuable for its obvious practical benefits but also increasingly as a marker of status providing international influence and domestic stability. In this sense, modern navies represent a type of institutional mimicry, and the search for legitimacy may well hold the key to their rise. They emerged in the context of Reformation Europe, primarily in the states that had a perceived lack of legitimacy. The concept of the fiscal-naval state in the eighteenth century is also illustrative. It is valuable not just because it recognises a good example set by the British state or the wider benefits of investing in naval power. The huge costs borne also speak of an uncommon political imperative, perhaps even of desperation. It is a reminder that to be a



‘seapower state’ had always required a strategic choice that was invariably taken up by a weaker power compensating for the lack of traditional military strength in a world of states defined by imperial authority and stature (Lambert, 325).

Such a motivation certainly fits the rise of Dutch sea power as part of its eighty-year struggle for independence against the Habsburg monarchy. Legitimacy might equally well explain the puzzle over what appears to be a delay in the full realisation of the effects of the Military Revolution at sea. Again, whether in terms of adopting the line of battle or regular, standing fleets of ships of the line, it is noted that these did not occur until well into the seventeenth century. The precise timing of any fundamental shift is somewhat contested. For many, 1688 and the political environment, financial institutions, and commitment following the Glorious Revolution mark the most significant change in naval warfare. Any change of monarchy of this or any other sort requires an equivalent consolidation of authority and exercise in legitimation. James Scott Wheeler looks earlier to the Commonwealth in England and its reliance on, and investment in, its navy as marking a key change, indeed a revolutionary one. With the upheaval of the civil wars and the anomaly that was the Commonwealth government, the need for legitimacy was perhaps never greater. What seems clear, at least, is that what sets the late seventeenth century apart is not any particular innovation in warfare at sea or newly compelling technical logic arising from the difficult accommodation of guns on ships. It was the rise of the perceived international political status of naval power, its embrace, and the mimicry that followed.

From the mid-century, therefore, naval power was enthusiastically pursued by a new, leading power in the shape of England. Once navies had become an instrument of great powers, this marked a significant shift in their wider, perceived political value. Although it may seem an unlikely suggestion, arguably the greater effect, therefore, was the full embrace of naval power on the heels of the Anglo-Dutch Wars by the leading monarchy of Europe, Bourbon France. With Louis XIV briefly leading the way, navies could no longer be just a principal accessory to a strategy ‘of the weak’. They also contributed to the international construction of great power status as a visual demonstration of the martial reputation upon which legitimacy was ultimately based. Thus, the expansion of naval warfare in the late seventeenth century can be seen as more than just an arms race or a practical, direct response to a strategic imbalance posed by the rise of Dutch and English sea power. Even less should it be seen as the final unfolding of the logic of the Military Revolution thesis. The difference was that the political value that navies had always held for the peripheral or the small

was now fully and widely accepted as a worthy and recognised contribution to traditional, royal reputation.

Important work on the army of Louis XIV makes it clear that its prodigious growth was not due to any fiscal miracle or overcoming technical or organisational issues. His success lay in successfully aligning the dynastic interests of his nobility with his own famously grand ambitions for his dynasty (Rowlands). The army was a practical instrument of his expansive wars, of course, but it was also an embodiment of his status, reinforcing his authority, and it was only in this way that it could grow to become so formidable. It is important to see the expansion of the navy in a similar light. One suspects, for example, that questions of relative status, specifically the jealousy expressed by Louis XIV of the unexpected wealth and influence of the Dutch republic whose status as a legitimate European power he barely recognised, had much more to do with the rapid construction in France of Europe's largest navy, along with its colonial empire, than any mercantilist theory or natural diffusion of technical innovation due to military pressure. Since the Spanish conquests in America of the early sixteenth century, imperial status in Europe had increasingly come to include overseas colonies and trade, and so his competition for the post-Roman heritage of legitimacy embodied by the Holy Roman Empire and dominated by the House of Habsburg could now include a mastery of the seas (James, 'Colbert' 124-26).

With the European post of emperor occupied, as it were, Louis XIV's bid to consolidate the rapid rise of the House of Bourbon to arguably the greatest monarchy of Europe required unusually ambitious aims backed by a willingness to fight and the assumption of the leadership of all of western Christendom. This is how he saw his role and the working of the international system, and naturally it affected how he approached sea power and what he hoped it could do for him. The French navy, therefore, acted as a physical representation of the king's personal authority, and historians have long remarked upon its unusually large, gilded Mediterranean galleys and its impressive, modern fleet of Atlantic warships, many of them named after the personal attributes of the king himself (Acerra). It was designed to announce the majesty of the king domestically and abroad, to European and to Asian powers alike (James *Raising*, 200-206). Yet the natural temptation has always been to assess the navy on how well it modernised the state and the economy. It is more often associated with Colbert and his difficult, ultimately failed, attempt to compete with the Dutch and the British as a mercantile power. Yet Louis XIV was not just in competition with these smaller powers for maritime empire. Indeed, in the sixteenth and seventeenth centuries, empires were neither primarily maritime nor European. This was, of

course, just a variation in a global system characterised by the expansive and militarily imposing Safavid, Ottoman, Mughal, and Ming or Qing empires. As Spruyt's welcome, recent global study reveals, these continental empires were not part of any so-called Westphalian system of sovereign states. They represented different international societies with unique outlooks and assumptions shaped by their own religious beliefs and cultural understandings of the structure of global power and the process of legitimation (Spruyt, *World*). There were military clashes between empires, some of them important, but they were not locked into a Darwinian struggle for the survival of the strongest or of the most modern. Rather, it would seem that institutional mimicry and mutual emulation occurred on a global scale, too. Thus, although Queen Anne proved a troublesome opponent to Louis XIV and he famously had to make many colonial and commercial concessions in the disappointing Peace of Utrecht of 1713, a more appropriate point of comparison for context might be his nearly direct contemporary, the Mughal Emperor, Aurangzeb, who, with an army the like of which Louis XIV could only dream, brought Islam and his own imperial authority to nearly the entire subcontinent.

Naval history is a rich and diverse field. Over the years, with the study of the range of experiences and influences of sea power, it has largely outgrown the Military Revolution thesis with which it had never actually been especially well-suited. In the process, it has raised some serious objections, notably about the determining role assigned by it to technological and tactical advances and, particularly, in terms of the outcome of military change. The idea that the pressures on states of the escalation of war led to greater central authority simply does not fit the experience of the states who most fully embraced sea power, nor does it reflect the range of economic, social, and cultural consequences. However, Louis XIV's seemingly anomalous experiment with naval power serves as an illustration of the limits of the field's liberation from the Military Revolution. The particularly tenacious fidelity of naval historians to the modernising influence of sea power retains enough of the conceptual approach that the full range of uses and approaches becomes difficult to assess, whether by emperors and kings, such as Louis XIV, or regional, local, and private uses of violence at sea. Any presumed, universal 'game' or set historical trajectory in naval warfare simply excludes too much, and it sustains the idea of Europe as the radiating centre of change and influence. The tight grip that modernity holds can be loosened by work on science and technology and the mutual influences with naval power. Equally, historians are exploring the cultural implications of a society's relationship with the sea. 'Seapower states', for example, have been shown to

be far more than any linear, causal, military explanation could ever account for alone. Similarly, some historians have an interest in the ideological motivations behind naval warfare, not in the usual twentieth-century meaning of the word, but in the sense of the various cultural and social influences on the use of power (Pincus; Davies et al, *Ideologies*). As the imperial world view of Louis XIV suggests, this needs to be extended into a genuinely global, comparative approach including all types of states. Naval history is clearly on the right course. The Military Revolution may not help to keep it there, but a rigorous self-examination of its continuing influence will.

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James Thornhill (1675-1734), *Allegory of the Power of Great Britain by Sea*, design for a decorative panel for George I's ceremonial coach (ca. 1720). Yale Center for British Art (Google Art Project)



## French Revolutionary and Napoleonic Perspectives on the Military Revolution

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A general acceptance of the idea that there was a military revolution in early modern Europe, first proposed by Michael Roberts in 1955<sup>1</sup> and expanded upon by Geoffrey Parker in 1988<sup>2</sup>, has transformed our understanding of subsequent periods of military history. As Roberts defined it, the military revolution had resulted from technological innovation and in particular reflected the impact of one major discovery – the invention of gunpowder and the rapid spread of firearms which it unleashed – on the conduct of war, both on land and at sea. From this single technological change, he surmised, there followed critical developments in the century after 1560, including the replacement of the lance and pike with firepower, a marked growth in the size of armies in the field, and an ability to pursue more ambitious and complex military strategies. These transformed the nature of both offensive and defensive operations and posed huge challenges to society, calling for unprecedented levels of state investment and influencing the balance of power both within Europe and across the globe.<sup>3</sup> In a world where innovation is often slow and cautious – the military can be a very conservative body, resistant to abandoning tried and tested methods in which they have invested – few other periods of history witnessed a similar rate of change. In its impact, gunpowder was to be compared to the invention of the stirrup or of the first use of the sword in battle. It did not take hold everywhere simultaneously, playing out differently in individual countries in line with state-formation and tax-raising capacities. Reform of the military must be seen as part of a wider process of nation-building, whereby good governance, the tax base and military power were inextricably linked in what John

1 Michael Roberts, 'The Military Revolution, 1560-1660. An inaugural lecture delivered before the Queen's University of Belfast' (Belfast : Marjory Boyd, 1956).

2 Geoffrey Parker, *The Military Revolution. Military Innovation and the Rise of the West, 1500-1800* (Cambridge: Cambridge University Press, 1988).

3 Geoffrey Parker, 'The "Military Revolution," 1555-2005: From Belfast to Barcelona and The Hague', *Journal of Military History* 69:1 (2005), pp. 205-209.

Brewer has termed the ‘fiscal-military state’, a phenomenon he saw most fully developed in Britain.<sup>4</sup>

Roberts insisted that his revolution took place in a defined period of time, in which a ‘great and permanent change came over the European world’, one that extended its tentacles far beyond the battlefield. By 1660, he claimed, ‘the modern art of war had come to birth’, and he goes on to detail a wide range of modern approaches and attitudes that had, in his opinion, already been instilled, both on institutions and on individuals. ‘Mass armies, strict discipline, absolute submergence of the individual, had already arrived; the conjoint ascendancy of financial power and applied science was already established in all its malignity; the use of propaganda, psychological warfare and terrorism as military weapons was already familiar to theorists as well as to commanders in the field; and the last remaining qualms as to the religious and ethical legitimacy seemed to have been stilled’.<sup>5</sup> There would be no technological change equivalent to the invention of gunpowder before the tanks and aircraft of the twentieth century, and hence no further military revolutions. If Roberts is right, then the leaders of Revolutionary and Napoleonic France had little room to innovate; their armies could benefit from the innovations of previous generations but had little opportunity to enact a revolution of their own.

Roberts’ thesis has not, of course, stood unchallenged. Among his critics, David Parrott, who has studied the early-modern French army and has analysed the tactical and strategic initiatives employed during the Thirty Years’ War, is particularly dismissive. ‘Battles were won and lost’, he says, ‘largely incidentally of the tactical changes of the period’; meanwhile ‘battles themselves were rendered almost irrelevant by the failure of a broader concept of strategy to come to terms with the real determinants of warfare in this period’.<sup>6</sup> Geoffrey Parker’s work on the military revolution has done much to revise Roberts’ thesis, arguing that the tactical and strategic changes Roberts pointed to were greatly exaggerated, and that strategy was always determined primarily by geography and by the presence or absence of fortifications against which larger armies and artillery

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4 John Brewer, *The Sinews of Power: War, Money and the English State, 1688- 1783* (London: Unwin Hyman, 1989). Brewer addressed criticism of his work in a subsequent article: ‘Re-visiting The Sinews of Power’, in Aaron Graham and Patrick Walsh (eds), *The British Fiscal-Military States, 1660- c.1783* (London: Routledge, 2016).

5 Roberts, *The Military Revolution, 1560-1660*, p. 32.

6 David A. Parrott, ‘Strategy and Tactics in the Thirty Years War: the “Military Revolution”’, in Clifford J. Rogers (ed.), *The Military Revolution Debate. Readings on the Military Transformation of Early Modern Europe* (Boulder, CO: Westview Press, 1995), p. 228.

fire may or may not have been effective. And while he accepts that the nature of war was transformed by three significant related developments – ‘a new use of firepower, a new type of fortifications, and an increase in army size’- he is cautious about calling this a revolution and is reluctant to limit it to the century before 1660. Any transformation, he suggests, was much slower to be achieved and the impact of the change less total than Roberts claims. In his words, ‘most of the wars fought in Europe before the French Revolution were not brought to an end by a strategy of extermination ... but via the patient accumulation of minor victories and the slow erosion of the enemy’s economic base’.<sup>7</sup> Indeed, he extends the period covered by his study all the way to 1800 so as to include something of Revolutionary and Napoleonic experience – the era when, finally, France had an army mighty enough to ‘break the stranglehold of the *trace italienne*’. Did this, he asks, sufficiently transform warfare to justify seeing it as a new ‘military revolution’?<sup>8</sup>

Clausewitz, most famously, thought it did, as he saw the best armies of Ancien Régime Europe overwhelmed by the massed battalions of the French Revolutionary and Napoleonic era. The limited campaigns of the eighteenth century had been constrained, he believed, by the political and social structures of the age; they were dynastic wars that had been conducted in the interests of kings and princes and fought for limited objectives, whether it be to seize a disputed territory, acquire an overseas colony, or secure a dynastic alliance. Besides, they were fought in a largely traditional way. If the countries of northern Europe, and especially Britain, were experiencing the first throes of an industrial revolution, this had little impact on battlefield technology, which would remain largely unchanged until the Crimean campaign in the 1850s.<sup>9</sup> In Hew Strachan’s words, ‘despite the introduction of rifled, breech-loading weapons, smokeless powder, and quick-firing artillery, the Napoleonic Wars remained “the last great war”’.<sup>10</sup> It was in the century after Waterloo that technology, and with it tactics, would be transformed.

But the wars unleashed by France under the Revolution and Empire were different in other ways, fought in the name of the nation and employing mass

7 Parker, *The Military Revolution*, p. 43.

8 Parker, *The Military Revolution*, p. 153.

9 Macgregor Knox and Williamson Murray, *The Dynamics of Military Revolution, 1300-2050* (Cambridge: Cambridge University Press, 2001), p. 9.

10 Hew Strachan, ‘Jomini, Clausewitz and the Theory of War’, in Alan Forrest and Peter Hicks (eds), *The Cambridge History of the Napoleonic Wars, vol. 3: Experience, Culture and Memory* (Cambridge: Cambridge University Press, 2022), p. 475.

conscript armies instead of the mercenary troops of eighteenth-century monarchies. The result was impressive. For over twenty years French armies fought campaign after campaign, racking up a succession of victories in Germany and Italy until in 1805-07 Napoleon swept all before him: for the first time in modern history a single state had inflicted crushing defeats on all the other powers of Europe. Contemporaries were dazzled and hailed the French emperor as a military genius, and Clausewitz was not inclined to disagree. 'The resources and efforts available for use', he observed, 'surpassed all conventional limits; nothing now inhibited the vigour with which war could be waged, and consequently the opponents of France faced the utmost peril'.<sup>11</sup> In the process the nature of warfare itself appeared to have changed, and, in the words of Azar Gat, 'the total mobilisation of forces, initiative, aggressiveness, and rapid decision in battle now dominated warfare'.<sup>12</sup> An army officer himself, Clausewitz developed an organic view of warfare that combined the military and the political. He understood that by challenging the foundations of the social and political order the Revolution undermined the very structures on which military planning was based.

None of this should be taken to imply that there had been little reform of note since the seventeenth century, or that pre-revolutionary French armies had been resistant to all change. The eighteenth century, indeed, had revealed serious military shortcomings as France fought a succession of wars both on European soil and in her overseas colonies that forced her armed forces to come to terms with defeat. The reign of Louis XV, in particular, seemed far from the glory years of Louis XIV, as a succession of wars, most notably the War of the Austrian Succession and the Seven Years War, drew attention to supply problems and tactical failings in an army that increasingly looked to imitate the reforms and battle formations that had transformed the fortunes of the Prussian army under Frederick William I and Frederick the Great. After a crushing loss at Rossbach in 1757 – where a French and Imperial army some 41,000 strong was outflanked and defeated by a considerably smaller Prussian force of around 22,000<sup>13</sup> – the French had attempted to copy the Prussian model, but they continued to debate the benefits of drawing up in columns or in extended lines. Various formations were proposed, though strategists were unwilling to be too prescriptive or to

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11 Carl von Clausewitz, *On War*, ed. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), p. 592.

12 Azar Gat, *A History of Military Thought. From the Enlightenment to the Cold War* (Oxford: Oxford University Press, 2001), p. 202.

13 Franz Szabo, *The Seven Years War in Europe: 1756-1763* (London: Taylor and Francis, 2008), pp. 94-98.

place too many constraints on a commander's freedom to adjust his tactics as the battle developed. The debate was still open by the time of the French Revolution, a debate that involved military strategists and political thinkers as well as some of the leading *philosophes* of the French Enlightenment.

Suddenly, it seemed, war was an everyday subject of debate and conversation in eighteenth-century France, and the writers of the mainstream Enlightenment played an active role. This was in stark contrast to the late seventeenth and early eighteenth centuries, when Europe was still traumatised by the brutality of the Thirty Years' War and the widespread atrocities it had spawned.<sup>14</sup> At that time philosophers had seemingly vied with one another to decry the ethics of war and question the value of France's soldiers, and the three most prominent moralists of the seventeenth century, Pascal, Fénelon and La Bruyère, were among the fiercest critics of the military. To Fénelon war had no ethics, no moral code; it was 'an evil that dishonours the human race'. For La Bruyère it was an obscene waste of human talent, as men devoted themselves to 'plundering, burning, killing and slaughtering one another' while giving their crimes legitimacy by calling them 'the art of war'. Voltaire, too, did not hold back from his revulsion at the sight of 'a million assassins organised into regiments, rushing from one end of Europe to the other inflicting murder and pillage because they have to earn their living and they do not know an honest trade'.<sup>15</sup> But opinion was shifting, and by the middle of the eighteenth century enlightened authors were lauding the courage, honour and self-sacrifice of the military. Montesquieu praised the virtue of Roman warriors, while Rousseau wrote that war was born of society and should be considered as 'the pure product of collective human art'. Of some 74,000 entries in the *Encyclopédie*, John Lynn has estimated that around 1,250 were listed by the editors under the sub-heading of 'art militaire'.<sup>16</sup> Within the wider Enlightenment there was a discrete and insistent strand of what Christy Pichichero has aptly called a 'military enlightenment'.<sup>17</sup>

Senior French officers who already had practical experience of command made an important contribution to thinking on military reform in the pre-revo-

14 See Geoff Mortimer, *Eyewitness Accounts of the Thirty Years' War, 1618-48* (Basingstoke: Palgrave Macmillan, 2002).

15 Émile G Léonard, *L'armée et ses problèmes au dix-huitième siècle* (Paris : Plon, 1958), pp. 47-53.

16 John A. Lynn, 'The treatment of military subjects in Diderot's *Encyclopédie*', *Journal of Military History* 65:1 (2001), p. 133.

17 Christy Pichichero, *The French Military Enlightenment. War and Culture in the French Empire from Louis XIV to Napoleon* (Ithaca: Cornell University Press, 2017), pp. 51-55.

lutionary period. One of the most influential, Jacques Antoine Hippolyte, comte de Guibert, wrote what Lawrence Freedman describes as ‘a systematic treatise on military science that captured the spirit of the Enlightenment and gained enormous influence’.<sup>18</sup> His contribution to the military debate was focused on the distinction between tactics and strategy, or – in the language of the time, since the word ‘strategy’ was not yet in common usage – between elementary tactics and grand tactics. He laid great store by an army’s manoeuvrability in the field and flexibility in battle, and proposed a more supple model of tactical deployment, whereby the infantry should advance in columns, then through a rapid conversion movement transform themselves into thin lines in preparation for the early stage of the battle. Skirmishers would then detach themselves from the army and would advance from the lines to provoke the enemy, pick off individual soldiers, and damage their morale. In a later phase of the fighting the infantry would concentrate their fire on enemy lines and attack in columns, supported by cavalry.<sup>19</sup> The element of surprise was deemed to be crucial.

Guibert’s *Essai général de tactique*, first published in 1772, was one of the seminal French works on military operations in the pre-revolutionary period. In it he showed a mature appreciation of the importance of drill and training in preparing an army for battle and of manoeuvrability on the battlefield itself – qualities which he had identified in Frederick the Great’s armies, which maintained their training regime in wartime, be it field training, or manoeuvres, or the cooperation of different arms<sup>20</sup> – but he also showed acute understanding of the broader strategic purpose of war. Guibert made no attempt to conceal his admiration for Frederick’s military achievements, be it his ruthlessness in battle, his skill in outflanking opponents, or his astuteness in choosing allies and building coalitions. Frederick would leave a considerable military legacy by reorganising Prussia’s infantry regiments, investing in light cavalry and creating a solid administrative structure akin to the modern German General Staff. Guibert was impressed by Prussia’s reforms and wished to copy many of them. But he said little about the Prussian army itself, preferring to call for the recruitment of a mass army and advocating something akin to the revolutionary *levée en masse*.<sup>21</sup> By 1790, however, he had changed his mind, and seemed ready to

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18 Lawrence Freedman, *Strategy. A History* (Oxford: Oxford University Press, 2013), p. 73.

19 Jean-Paul Bertaud, *Guerre et société en France de Louis XIV à Napoléon Ier* (Paris: Armand Colin, 1998), pp. 16–18.

20 David Fraser, *Frederick the Great* (London: Allen Lane, 2000), p. 129.

21 Beatrice Heuser, *Strategy before Clausewitz. Linking Warfare and Statecraft, 1400–1830* (London: Routledge, 2018), p. 182.

follow Frederick's lead and rely on a standing army composed of mercenary units and professional troops. But he was aware of the risks that such an army posed for civil society. In his final work of military theory, *De la force publique considérée par tous ses rapports*, published in Paris in the early months of the Revolution, he warned that a large standing army necessarily posed a threat to what he called 'civilized society' and that the civil authority must be prepared to impose its authority on the military. If it failed to do so, any standing professional army 'could become dangerous for public freedom, if all the forces of the nation are not the brake and the counterweight to it'.<sup>22</sup> Guibert may have foretold something of the massed armies and human sacrifice of the wars to come after 1789, but he did not condone the annihilation of the enemy. He was not, as Beatrice Heuser rightly concludes in a powerful essay, 'a prophet of total war'.<sup>23</sup>

Guibert was not the only military theorist or practitioner to advocate reform in the final decades of the Ancien Régime or to write papers advocating changes to improve military efficiency. Others showed a similar concern for France's military shortcomings, wrote essays on military art, or advocated improvements to soldiers' day-to-day life and conditions. Others again debated the legitimacy of war, or argued for a more efficient system of recruitment, or wrote about the need to show greater humanity towards civilians or enemy prisoners-of-war. Some even broached the vexed question of citizenship and its implications for war, with Maurice de Saxe and Joseph Servan among the most prominent writers – and serving army officers – who theorised about military values and civic duty and argued the case for a patriotic citizen army. In their spirit and language they already spoke to a new era and reflected the concerns of the revolution that was to come. But they were not revolutionaries. De Saxe attached greatest importance to drill and to the scrupulous preparation of his troops. He demanded that everything be done to eliminate the element of chance which could destroy the best-laid plans; not leaving anything to chance, he said, was 'the highest point of perfection and skill in a general'.<sup>24</sup> As for Servan, he was a career officer whose objective was to improve the capabilities of the royal army, not to divert its loyalty from the crown. In his most famous work, *Le soldat citoyen*,

22 Guibert, *De la force publique considérée par tous ses rapports* (Paris : Didot l'aîné, 1790); idem, *Écrits militaires, 1772-1790* (Paris : Éditions Nation Armée, 1977), pp. 241-302.

23 Beatrice Heuser, 'Guibert: Prophet of Total War?', in Stig Förster & Roger Chickering (eds), *War in an Age of Revolution: The Wars of American Independence and French Revolution, 1775-1815* (Cambridge: Cambridge University Press, 2010), pp. 49-67.

24 Beatrice Heuser, *The Evolution of Strategy. Thinking War from Antiquity to the Present* (Cambridge: Cambridge University Press, 2010), p. 88.



published in 1780 during the American War of Independence, he called for patriotic reforms that would transform the military while dismissing the need for a mass army and warning against any change that recalled the hated militia of earlier decades.<sup>25</sup> He was not advocating revolution, though later, in the very different political climate of 1792, he would be promoted to the rank of general and would twice serve as Minister of War in the Girondin administration.

*Le soldat citoyen* was intended to provoke change. Servan refused to accept the rather complacent orthodoxy that France had good armies and good soldiers, arguing that the quality of a soldier was defined by three convergent conditions – the character of the nation, the quality of his education, and the nature of the government he served. France's history and traditions, he suggested, had not always served her well.<sup>26</sup> Officers were too often men of limited ability, promoted to reflect their position in society and membership of aristocratic families and tarnished by an obsessive concern with privilege and precedence in military life. Too often, he wrote, 'I find myself surrounded by senior officers who are narrow-minded and meticulous, who have been promoted to their commands by birth rather than on merit'. They could be lamentably blind to the wider problems of society, while subalterns were 'brave but ignorant, careless and presumptuous', and were paid too little to encourage them to take pride in their rank.<sup>27</sup> His most powerful criticisms were aimed at the recruitment of the royal army and the low status accorded to the men who served in it. He suggested that the principles on which the army was conceived needed to be revised, and thought be given to just how many troops were required to defend the state. More attention should be paid to the moral and physical qualities that were demanded of soldiers, and to the respect in which they were held: in a modern and enlightened army of citizens, he argued, it was indispensable that the soldier be integrated into civil society, that he be treated well while in the army and subject to a humane code of discipline, and that he enjoy a decent level of pay in return for the sacrifice he was making. Young men could receive an education in the army that would equip them for a return to civil society; and in winter, when the campaigning season was over, they should return to their villages and hamlets to become once more the tradesmen or peasants they had been in civilian life and in this way 'cultivate the lands they would defend'.<sup>28</sup> Already, it seemed, he was

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25 Joseph Servan, *Le soldat citoyen, ou vues patriotiques sur la manière la plus avantageuse de pourvoir à la défense du royaume* (Neuchâtel: Dans le pays de la liberté, 1780).

26 Servan, *Le soldat citoyen*, p. 8.

27 Servan, *Le soldat citoyen*, pp. 451-52.

28 Servan, *Le soldat citoyen*, pp. 456-57.



thinking of military service as an aspect of citizenship, insisting that the soldiers were citizens first and foremost, accorded the same rights as were granted to society at large. They were no longer to be viewed as the unprivileged in society; the military nobility who had occupied all the higher ranks in the army would fall victim, he believed, to the reform programme which some of their number had unleashed<sup>29</sup>

These were major works which went on to influence military thinking both in France and beyond. But they should not be seen in isolation. They were part of a much greater wave of military writing and betrayed a deep-seated concern in the higher echelons of the French military about the state of their troops and the challenges that lay ahead. The Comte de Saint-Germain wrote in 1779 of his unease at the huge numbers of soldiers the French army seemed to consume and his fear that recruiting such large numbers to fight in eighteenth-century wars would halt population growth. This would be especially damaging if the army were forced to call on the militia to plug holes in regimental strength, men who had little stake in society and hence little reason to show devotion to the cause. They were, in Saint-Germain's view, poorly motivated and poorly disciplined, prone to plunder, rape and desertion; and he suggested that the country needed a smaller army that would be better trained and equipped, and properly rewarded. He even proposed a better distribution of land to turn peasants into small property-owners with something to return to when the campaign was over.<sup>30</sup> The Maréchal de Saxe, in recommendations published posthumously in 1757, had said much the same. Troops needed to feel valued and to be rewarded with sufficient pay if discipline were to be maintained, he insisted, adding that 'it is not large armies that win battles but good armies'.<sup>31</sup> How could the armies of Louis XV and Louis XVI be reformed and improved?

Faced with defeat on the battlefield, the military authorities actively encouraged their serving officers to reflect on war and to suggest reforms that might improve the quality of the army and the performance of its soldiers in the field. The result was a flurry of notes, plans and recommendations by army officers with their insights on what had gone wrong and where substantial change was required. The resultant *mémoires*, scrupulously collected by the military author-

29 André Corvisier, 'La noblesse militaire. Aspects militaires de la noblesse française du 15<sup>e</sup> au 18<sup>e</sup> siècles. État des questions', *Histoire sociale/Social History* 11 (1978), p. 355.

30 Claude-Louis de Saint-Germain, *Mémoires de M. le Comte de Saint-Germain, ministre et secrétaire d'Etat de la guerre* (Amsterdam : M. M. Rey, 1779), pp. 169-70.

31 Maurice de Saxe, *Mes rêveries: ouvrage posthume de Maurice, comte de Saxe* (Paris: H. Charles-Lavauzelle, 1895), p. 24.

ities, are now housed in the archives of the Service historique de la Défense at Vincennes. They are grouped around three major themes: a historical section analysing the campaigns, battles and sieges in which French troops had been involved; a topographical section on the topography of those regions where French military efforts were concentrated, including recommendations for border defences; and a third section discussing reforms to the organisation and administration of the army and operational art.<sup>32</sup> Collectively they offer a conspectus on the reformist ideas of the pre-revolutionary era and show a surprising openness to change and innovation inside the military. They recognise the patriotism of the troops and the sense of honour that empowered them. They seek to improve soldiers' motivation and to raise morale in the regiments. They suggest improvements to training and more effective battlefield manoeuvres. They take a more enlightened approach to questions of military discipline. And they show a new awareness of the value of reconnaissance and the use of maps. These were all significant changes, which helped to free the military from subjugation to a hereditary nobility. But they cannot be held to constitute a military revolution.<sup>33</sup>

Besides, as we have seen, the pre-revolutionary period did not produce any vital technological change that would merit the description of 'revolutionary'. What it did do was bring significant improvements to gun design that resulted in much more deadly and accurate artillery fire. Most significant were the reforms initiated in 1765 by a French general and artillery officer, Jean-Baptiste Vaquette de Gribeauval, who drew on the experience he had gained while he was attached to the Austrian army during the Seven Years War. Gribeauval was a superb technician who achieved greater accuracy and a faster rate of fire through a programme of standardising the design and the manufacture of guns and through the use of better ammunition and elevating screws, enabling the gunner to raise or lower the cannon's angle of elevation.<sup>34</sup> He also made his artillery pieces more adaptable and more mobile on the battlefield, as Christopher Bellamy explains, 'by building lighter gun carriages, and having the guns

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32 Archives du SHD, série GR M, 'Mémoires et reconnaissances'; Hervé Dré villon and Arnaud Guinier (eds), *Les Lumières de la Guerre. Mémoires militaires du 18<sup>e</sup> siècle conservés au Service Historique de la Défense* (2 vols, Paris : Publications de la Sorbonne, 2014)

33 Arnaud Guinier, 'La quête d'une discipline éclairée', in Dré villon and Guinier (eds), *Les Lumières de la Guerre*, pp. 185-252 ; Arnaud Guinier, 'Repenser l'obéissance', in *ibid.*, *L'honneur du soldat. Éthique martiale dans la France des Lumières* (Paris : Champ Vallon, 2014), pp. 211-353.

34 Ken Alder, *Engineering the Revolution. Arms and Enlightenment in France, 1763-1815* (Princeton: Princeton University Press, 1997), p. 97.

and limbers drawn by paired horses rather than in tandem, as they had been before'.<sup>35</sup> This was part of a wider effort within the French military bureaucracy to produce guns and cannon in a fully standardised way and to make use of interchangeable parts.<sup>36</sup> The quality of gun barrels was further improved in the 1780s when British iron-smelting processes were introduced to France, transforming the artillery into the deadliest weapon on the battlefield. This transformation was sufficiently significant for some historians to talk of an 'artillery revolution' in eighteenth-century France, one which had social and political ramifications as part of a wider Enlightenment project to recast French government and society in a technocratic mould.<sup>37</sup>

The French revolutionaries unsurprisingly talked the language of revolution in virtually every sphere of public policy, and their revolution brought a dramatic change in public discourse on war and on the armies they would turn to to pursue it. Indeed, if the declarations of revolutionary politicians are to be believed, it was never intended that France should become embroiled in war at all, and certainly not in a war of aggression or conquest. As early as 1790 the National Assembly recognised that the country would have to be able to defend its territory if it came under attack, but the deputies seemed explicitly to rule out wars to secure disputed territory, or to claim a dynastic succession, or to squabble over colonies – the traditional *casus belli* of monarchies and dukedoms. In a revolutionary regime, they claimed, war would be declared only on tyrants. The French would never again make war on other peoples, and their anger was reserved for the inhabitants of castles, not of humble cottages. Admittedly, the parliamentary debate on the question was more concerned with the balance of domestic power in France than with the diplomatic balance in Europe: the principal aim of the decree that emerged on 22 May 1790 was to restrict the executive power of the king which was enhanced in wartime, when it was the royal prerogative to take control of the armies and make war and peace with other monarchs. But that decree seemed to leave little room for compromise. Lest there be any confusion, it went on to state that 'the French nation renounces all wars made for the purpose of conquest, and that it will never deploy its forces against the liberty of any people'.<sup>38</sup> That might seem to rule out any return to the

35 Christopher Bellamy, 'Gribeauval, Jean-Baptiste Vaquette de', in Richard Holmes (ed.), *The Oxford Companion to Military History* (Oxford: Oxford University Press, 2001), p. 379.

36 Ken Alder, *Engineering the Revolution*, pp. 160–61.

37 Ken MacLennan, 'Liechtenstein and Gribeauval: "Artillery Revolution" in Political and Cultural Context', *War in History*, 10:3 (2003), pp. 249–64.

38 *Archives Parlementaires*, première série (1789–1800), vol. 15, pp. 661–662.

foreign policy aims of the eighteenth century, to redefine, indeed, to revolutionize, the very function of war.

Yet such speeches would appear to have had little effect on military practice or on military strategy. What they did do was to confirm the widespread impression in foreign courts that France was heading for a period of diplomatic disruption, an impression that was only strengthened by the revolutionaries' hesitant reply to Britain in the Nootka Sound crisis of 1790.<sup>39</sup> Any diffidence on the international stage did not, however, last, and by 1792 the revolutionaries had launched themselves into what would be the start of nearly a quarter of a century of conflict when they declared war on the Emperor of Austria, claiming that they had to defend themselves from his aggression. They had, admittedly, some cause to be alarmed. In the previous July Leopold had issued his Padua Circular to the other monarchs of Europe, appealing for joint action to restore Louis XVI's liberty, and in August he had, with Frederick William of Prussia, signed the Declaration of Pillnitz, seemingly promising to restore the Bourbons to the French throne and threatening an imminent invasion.<sup>40</sup> The crowned heads of Europe viewed the French Revolution with understandable concern but also with self-interest. Was this not the moment when the internal disruption that the Revolution had caused might leave the French army weakened and their own chances of making important territorial gains enhanced? Should the revolution in France not be seized upon as a moment of opportunity? The other European powers had no reason to change their war aims, and the foreign policy of the 1790s was in many respects a continuation of the great powers' ambitions of previous decades, a period marked by a succession of limited wars in Europe and wars for empire overseas. If the French were moving into uncharted waters, they were not. And, as Jeremy Black has argued, the French did not call all the shots. For much of the period French strategy was formed in response to the moves made by the other European powers, most especially Britain and Russia. Their wars did not start with the Revolution, and for many leaders the new conflicts were just the continuation of pre-1792 warfare. All the main protagonists – Austria, Britain, France, Prussia, Russia, Turkey and Spain – had been at war since 1778. They had gained valuable experience which their commanders now hoped to exploit.<sup>41</sup>

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39 Jeremy Whiteman, *Reform, Revolution and French Global Policy, 1787-1791* (Aldershot: Ashgate, 2003), p. 215.

40 T. C. W. Blanning, *The Origins of the French Revolutionary Wars* (London: Longman, 1986), pp. 86-87.

41 Jeremy Black, *The French Revolutionary and Napoleonic Wars. Strategies for a World War*

If the French justified war by talking of the threats they faced, of the need to rush to the defence of the *patrie en danger*, it soon became clear that that danger was short-lived. After the brief Spanish incursion into the Roussillon in 1793 there were few serious threats to French territory until Napoleon's *campagne de France* in 1814. While Britain twice sent forces to assist French counter-revolutionaries or separatists, occupying Corsica between 1794 and 1796 and launching an ill-judged invasion of the Quiberon peninsula in 1795, these had little effect on the wider European conflict. Instead, the revolutionary wars rapidly became wars of expansion which resulted in the annexation of territory and the creation of sister republics, ideological allies that formed a sort of confederation of like-minded states. Under the Directory France itself was referred to as 'la Grande Nation', incorporating its allies into a single transnational entity; while by 1799 the idea was further refined to describe a Europe-wide federation of representative republics, a description that was much more acceptable to France's allies.<sup>42</sup> This went far beyond the traditional French foreign policy goal of creating buffer states to guarantee its borders. The sister republics accepted France's lead in matters like legal and judicial reform and imposed administrative structures that were modelled on those of the French republic. A common thread running through revolutionary discourse was the government's obligations towards men who were no longer mere subjects of a king, but citizens enjoying rights that had to be respected. It was as citizens that they could claim the right to justice, just as it was as citizens that they were called upon to fulfil their obligations towards society and to the state. And so, when the French annexed adjacent territories, they concluded that what worked well in France should be extended to their neighbours, till by 1810, following the annexation of Holland and much of north-west Germany, the French Empire had swollen to 130 *départements*, all organized along French lines and administered wherever possible by scions of the local elite. Territory combined with ideology and pragmatism in apportioning citizenship. This gave a new purpose to war as the French perceived it, creating a polity that was truly transnational and offering a model in administrative efficiency which was infinitely transferable, and which helped to define the revolutionary nation.<sup>43</sup>

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(Lanham, MD: Rowman and Littlefield, 2022), p. 13.

42 Bernard Gainot, 'Vers une alternative à la « Grande Nation » : le projet d'une confédération des états-nations en 1799', in Pierre Serna (ed.), *Républiques sœurs. Le Directoire et la Révolution atlantique* (Rennes : Presses universitaires de Rennes, 2009), pp. 75-86.

43 Andreas Fahrmeir, '(Re)spatialization and its limits. Territory and descent, ideology and pragmatism in definitions of citizenship', in Megan Maruschke and Matthias Middell (eds), *The*

But once again, if France's war aims were amended to fit with the demands of the Revolution, there is little evidence of technological advances of the kind that Roberts and Parker saw as essential to a military revolution. Battles were planned in much the same way as they had been across the eighteenth century, the soldiers drilled with manuals that would have been familiar to French soldiers in the wars of mid-century.<sup>44</sup> There were no major inventions or improvements to military hardware that might transform the performance of the army in the field in the way that gunpowder had done in an earlier era. Indeed, the most that can be said is that the revolutionary armies benefited from Gribeauval's improvements to the accuracy of musket and artillery fire and learned through experience of battle how to put them to best use; as the Chevalier du Teil had counselled in his treatise on the use of the new artillery, 'war is the only school where it is possible to bring together theory and practice and to form officers who are ready to serve'.<sup>45</sup> But in the early stages of the war the authorities could not even guarantee that their troops had access to functioning firearms, as the army was dogged by supply problems and muskets were often unavailable. For new recruits in 1792 and 1793 the problems were even more acute. It was often left to local communities to clothe and arm their recruits before they were dispatched to join their regiments, which meant that many were poorly prepared for combat. Some had only rusting shotguns or hunting rifles hastily collected from the local peasantry, while in towns mayors could be forced to disarm their National Guard units if they were to provide muskets for their soldiers. With supplies consistently short, there was little that either the government or the army could do to ensure that their men were properly equipped for war. 'Arm yourselves with pikes', advised the Dordogne deputy Élie Lacoste as he organised recruitment for the Armée du Nord, 'and failing that with swords, axes and even pickaxes'.<sup>46</sup> Like many of his fellow deputies, he had no choice but to turn to short-term expedients in an emergency, and for the troops it cannot have felt as though they were benefiting from any revolutionary breakthrough.

Where the Revolution could be said to have wrought major changes to the

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*French Revolution as a Moment of Respatialization* (Oldenbourg: De Gruyter, 2019), pp. 189-202.

44 Jean-Henri Hassenfratz, *École d'exercice, ou Manuel militaire à l'usage de toutes les gardes nationales du royaume, infanterie, cavalerie et artillerie* (Paris: Desray, 1791).

45 Chevalier Jean du Teil, *De l'usage de l'artillerie nouvelle dans la guerre de campagne* (Metz: Marchal, 1778), p. 127.

46 Jean-Paul Bertaud, *La Révolution armée. Les soldats-citoyens et la Révolution Française* (Paris: Robert Laffont, 1979), p. 240.



army it inherited was in matters of recruitment, both of the men in the ranks and of their officers. The eighteenth-century royal army consisted of three distinct elements, the household regiments, the line regiments, and the militia, the first two of which had formed the standing army of the Ancien Régime. The Maison du Roi, of course, had largely ceremonial duties and was used to guard the royal palaces and the person of the King. The infantry regiments provided the main fighting units, and they would form the backbone of the revolutionary army until 1791, when the first volunteer battalions were recruited. At the end of the Ancien Régime the army could boast 102 infantry regiments in total, of which 79 were French, with the others composed of mercenaries from across Europe.<sup>47</sup> The officers were still drawn from provincial nobles, with admission to the officer ranks restricted to those who could show four quarterings of nobility, though in the final decades of the Ancien Régime a greater effort was made to instil a higher level of professionalism, especially in those officer cadets who received their education at the École Royale Militaire in Paris. Though it did not fully win the trust of the public, the central mission of the École, as its most recent historian Haroldo Guizar emphasises, did not change – to foster ‘moral qualities such as emulation, zeal, discipline and obedience by all the means at its disposal’.<sup>48</sup> However imperfectly, the technical quality of the officer corps could only improve as a consequence.

But neither the officers nor the men they led proved capable of resisting the political shock of revolution, with its anti-noble bias and its emphasis on the rights of citizenship. The problems quickly mounted. Could officers be trusted to transfer their oath from the king to the nation? Could free men be persuaded to submit to a military discipline that denied them much of their freedom? Could men who had volunteered to fight to defend their homes be entrusted with an expansionist campaign across Europe? The evidence of the first months did not promise well: soldiers mutinied for better pay and conditions at Nancy, Perpignan and other garrison towns in 1790, while their officers – especially after the King’s flight to Varennes – resigned their commissions and chose a life in emigration or exile. Between September 1791 and December 1792, it has been calculated that one-third of the units in the line army lost one-third or more of their officers to resignation or emigration.<sup>49</sup> By February 1793 the army

47 Samuel F. Scott, *The Response of the Royal Army to the French Revolution* (Oxford: Oxford University Press, 1978), pp. 217-24.

48 Haroldo A. Guizar, *The École Royale Militaire. Noble Education, Institutional Innovation and Royal Charity, 1750-1788* (Basingstoke: Palgrave Macmillan, 2020), p. 259.

49 Scott, *Response*, p. 110.

the Revolution had inherited had been reduced to fewer than 230,000 soldiers, compared to over 400,000 only two months before, resulting in yawning gaps in the ranks. In capital cities across Europe the French military threat was seen to have been neutralised by revolutionary politics.<sup>50</sup> The reforms that followed – the creation of a ‘citizen army’, the constitution of the ‘nation-in-arms’ to defend France against invasion, and the various levies ordered from 1793 to raise hundreds of thousands of men – were born less of revolutionary idealism than of alarm and desperation.

They were, however, sufficiently unorthodox to shock military establishments across Europe. Military commands were no longer reserved for the nobility. Officers were now to be promoted from the rank below, allowing non-commissioned officers, commoners who might have started their lives as private soldiers, for the first time to become officers and even to assume commands. For a brief spell under the Jacobin Republic, they were elected by their peers. And the ranks of the army were no longer to be the preserve of the poor or disinherited. In an age when soldiers were routinely press-ganged into service, or commandeered from bars, country markets and poorhouses, the French sought to create an army of genuine volunteers, of dedicated patriots. Their appeal was answered in 1791 and, to an extent, in the following year, but it soon became apparent that the voluntary principle was inadequate to the military needs of the nation. The Revolution turned to a system of forced levies, then the *levée en masse* and the principle that the whole of French society was requisitioned for some form of war service. Social groups, especially the urban bourgeoisie, who had never contributed much by way of military service, now found themselves forced to bear arms in the name of equality. And by the end of the decade, with numbers again falling through losses in battle and deaths through disease, the Directory regularised the system of recruitment to create annual rounds of conscription. This system would remain in force, with minor changes, throughout the Napoleonic Wars, when the annual ballot became a central duty of citizenship, a rite of passage from adolescence to manhood. Although conscription led to widespread discontent and occasional insurrection, and some provision was made for the purchase of substitutes, from 1799 it provided France with the manpower for a modern mass army.<sup>51</sup>

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50 Gunther E. Rothenberg, *Napoleon's Great Adversary: Archduke Charles and the Austrian Army, 1792-1814* (Staplehurst: Spellmount, 1985), p. 17.

51 Alan Forrest, *Conscripts and Deserters. The Army and French Society during the Revolution and Empire* (New York: Oxford University Press, 1989, pp. 20-42.



But did the Revolutionary Wars produce any new tactical or operational innovations that might explain the success of French arms? The armies' resort to lengthy sieges to destroy enemy defences did not change from the wars of the eighteenth century: in the Peninsular campaign historians have listed no fewer than 29 such sieges, and while some have argued that there was a qualitative shift in the degree of violence used towards the defenders of besieged towns, Bruce Collins can conclude that 'the sacking of defended cities did not essentially differ in the 1810s from such actions before the 1790s'.<sup>52</sup> And on the battlefield, although more emphasis was placed on flexibility and speed, there is little to suggest that tactics were revolutionised. Artillery pieces, as we have seen, were made lighter and more manoeuvrable; and the organisation of the army in formal squares and battlefield formations gave way to mass assaults and loose skirmishing. In 1793 whole brigades were deployed in skirmishing order, rushing pell-mell at the enemy. With time, of course, they adapted these tactics and became more sophisticated in their deployment, till by 1795 they were using 'a flexible combination of linear formations, attack columns, skirmishing and sniping'.<sup>53</sup> In French military memory, however, it is the spontaneity and courage that are most frequently recalled, along with the undoubted patriotism of the young soldiers. In lessons to budding officers at St Cyr under the Third Republic praise would be lavished on the civic conscience and the selflessness of the revolutionary armies. Little was said about their technique - little, at least, that could help train the new generation of officer cadets.<sup>54</sup>

Napoleon was remembered quite differently, as a commander of strategic genius whose careful preparation and incisive decision-making could transform a battle and brought the French a series of remarkable victories. Marengo, Ulm, Austerlitz and Jena were studied and analysed by generations of French officers seeking inspiration for winning tactics on the battlefield. Above all, Napoleon was given credit for ability to read a battle, his bold vision, and his preparedness to focus all his firepower on a target and attack. He believed in attack wherever possible, seeking out battle and making full use of artillery to pummel the enemy lines. Battles also lasted longer than in previous wars. Clausewitz saw him as the epitome of a successful general because of this quality of fearlessness,

52 Gavin Daly, *Storm and Sack. British Sieges, Violence and the Laws of War in the Napoleonic Era, 1799-1815* (Cambridge: Cambridge University Press, 2022), pp. 7-10.

53 Gunther E. Rothenberg, *The Art of Warfare in the Age of Napoleon* (Bloomington: University of Indiana Press, 1978), p. 115.

54 Ernest Lavisse, *L'armée à travers les âges: conférences faites en 1898 à l'École Militaire de Saint-Cyr* (Paris: n.p., 1899), p. 200.

refusing to retreat and throwing men forward at every opportunity. 'Essentially war is fighting', he argued, adding that 'fighting is the only effective principle in the many-fold activities generally designated as war'. He believed that a general should 'achieve the maximum concentration of force and strike the enemy with the maximum power. Defence ought to be adopted only if one is too weak to attack'.<sup>55</sup> Napoleon's boldness in the Italian Campaign, like Frederick's in the Seven Years War, made them the modern masters, in Clausewitz's view, of battle technique.

But boldness should not be confused with recklessness. Napoleon's success owed much to careful planning, with skilled staff work key to his armies' success. Here he was building on work that the Revolution had begun. Lazare Carnot, for instance, instituted an informal *bureau topographique* in 1793, and in 1796 the army field staff was reorganised by Louis-Alexandre Berthier into separate divisions for discipline, logistics and engineering, intelligence and operations, and staff administration. Napoleon would go much further, aided by Berthier who went on to be his chief of staff: he expanded his personal staff (or *maison*) to enable him to collect intelligence directly on enemy positions and to gain familiarity with the lie of the land before he committed his troops. On the field, he oversaw a major streamlining of the all-arms divisions which he had inherited from the Revolution, replacing them with army corps consisting of infantry divisions with units of artillery and cavalry attached. This brought multiple benefits, allowing their deployment across a broader front, facilitating the outflanking of the enemy, and making possible attacks on the rear of the opposing army. In this way, Claus Telp concludes, 'manoeuvre for the purpose of battle became easier as chances had improved of driving the enemy into a corner, severing his line of retreat and attacking him from several sides'.<sup>56</sup> Despite his later defeats and his strategic blunder in invading Russia in 1812, Napoleon's command of operational art was inspirational; it would provide a model for future generations and would continue to be studied in Europe's military academies across the nineteenth century. But whether it can be held to constitute a military revolution is quite another matter.

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<sup>55</sup> Gat, *A History of Military Thought*, pp. 204-05.

<sup>56</sup> Claus Telp, *The Evolution of Operational Art, 1740-1813: From Frederick the Great to Napoleon* (London: Frank Cass, 2005), p. 69.

## Military revolutions in Ireland and the British Isles, 1450-1800

By MARK CHARLES FISSEL

At its modern inception in 1955, “military revolution” was a singularity. Herein, the term serves as a taxonomic device to categorize and gauge episodes of extraordinary transformation in warfare. Is the transposition of such loose nomenclature ahistorical? Flawed admittedly, the framework of multiple military revolutions nevertheless contextualizes qualitatively different developmental processes. A profusion of “British-derived” species of military revolutions were identified partly because the bulk of literature on military revolutions was and continues to be written in the English language. British and North American scholars, immersed in their respective national historical predispositions, fashioned a historiography reflective of their own strategic culture. The ease with which proponents of the Western way of war thesis aligned themselves with the military revolution model exemplifies and affirms Anglophone socio-cultural assumptions about waging war<sup>1</sup>. Geoffrey Parker’s revisionist “military revolution” incorporated European empire-building with Michael Roberts’ emphasis on empowerment of grand strategies via technology and tactics. The first military revolutions (identified by British historians, of course) in Sweden, the Netherlands, and Spain, pursued expansionist goals. However, regarding the West and the “rest”, Great Britain forged the empire upon which the sun never set. If the military revolution thesis (implicitly) rationalizes colonialism, then Britain’s peerless imperial achievement, like its pioneering of the industrial revolution, offers the foremost case study<sup>2</sup>.

1 For example, Geoffrey Parker, ed. *The Cambridge History of Warfare*, Cambridge University Press, 2005, pp vii, 1-11. The author expresses gratitude to our esteemed editor Jeremy Black, to Virgilio Ilari for consultation, encouragement, and copyediting, and to Ian Copestake for copyediting.

2 See “The British Isles” in Mark Charles Fissel, “Military Revolutions”, *Oxford Bibliographies in Military History*, edited by Kaushik Roy, New York, Oxford University Press, <https://www.oxfordbibliographies.com/view/document/obo-9780199791279/obo-9780199791279-0212.xml>.

Military revolutions, profound military transformations that often seem abrupt and irreversible (sometimes more to historians than to contemporaries), are rooted in a strategic culture's evolutionary development. Revolutions in military affairs (RMAs) are oftentimes subcomponents within the punctuated equilibria patterns of military revolutions, and virtually always endogenous to the host culture. Such diversified categorization of historical phenomena is more useful than adherence to a solitary paradigm or ill-fitting theory. Military revolutions and RMAs are sometimes considered to be synonymous. However, distinctions are made<sup>3</sup>. Military revolutions have been applied to present-day developments; the modernity-inspired RMA model illumines earlier eras<sup>4</sup>, e.g., Philip of Macedon's RMA, where a strategic culture's organizational reforms modified weaponry, resulting in "dramatic changes in military doctrine and operational and organizational concepts" that compelled adversaries "to adopt or adapt new responses to the RMA or be defeated"<sup>5</sup>. This essay posits four military revolutions/RMAs stretching from medieval to modern.

To sequence chronologically British military revolutions/RMAs implies that the periods flanking a given military revolution were comparatively "less revolutionary" or remarkably unrevolutionary. Or some eras were more authentically progressive in the military arts than were others. With the latter caveat, we advocate the punctuated equilibrium model proposed by biological science, where gradual sequential development is punctuated by bursts of rapid change. British military revolutions circa 1450 to 1800 occurred (1) in the crucible of civil war, e.g., 1459 to 1461, 1464, 1469 to 1471, 1483, 1485, 1642 to 1651; (2) as a consequence of overseas campaigns, including subsequent domestic dissemination of knowledge by veterans; (3) as lessons learned practicing violence upon "British" frontiers, e.g., English expeditions against Ireland from medieval times through the battle of Arklow (1798), and Scotland versus England (for example 1496-1497, 1513, 1547, 1576, 1639-1640, 1651, 1745, etc.). Wales's

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3 Clifford J. Rogers, "'Military Revolutions' and 'Revolutions in Military Affairs': A Historian's Perspective", edited by T. Gongora and H. von Riekhoff, *Toward a Revolution in Military Affairs? Defense and Security at the Dawn of the Twenty-First Century*, Westport, Connecticut: Greenwood, 2000, pp 21-34.

4 Geoffrey Parker, "The Limits to Revolutions in Military Affairs: Maurice of Nassau, the Battle of Nieuwpoort (1600), and the Legacy", *Journal of Military History*, Vol. 71, No. 2, April 2007, pp. 366-372.

5 Lee L. Brice, "Philip II, Alexander, and the Question of a Macedonian RMA", [https://www.academia.edu/5137974/Philip\\_II\\_Alexander\\_and\\_the\\_Question\\_of\\_a\\_Macedonian\\_RMA](https://www.academia.edu/5137974/Philip_II_Alexander_and_the_Question_of_a_Macedonian_RMA) 2011.

subjugation was consolidated by an Edwardian “fortress revolution” circa 1277 to 1295<sup>6</sup>. Obviously, each date listed above does not mark a military revolution. However, taken as a whole these individual conflicts, incremental and varied, illustrate the structure of punctuated equilibrium.

We can also quarter the period 1450 to 1800. From 1450 to 1560 Britain underwent gunpowder revolutions, e.g., “early” and “late” medieval artillery revolutions pitting defensive architecture against the destructive power of cannon. Firearms’ revolutions developed slowly and sporadically but peaked during Henry VIII’s reign (1509-1547). British military revolutions, too, encompassed RMA subcomponents, such as the one which commenced in 1560, a Protestant-led confessional revolution in military affairs linked to the Henrician administrative RMA following the king’s break with Rome. The confessional RMA collapsed with the Cromwellian Protectorate in 1658 to 1659, while 1660 to 1721 constitutes Jeremy Black’s “second military revolution” in a series of profound military transformations before 1815.

British armies proliferated in size, and the thin red line enjoyed unprecedentedly intense firepower. Infantry embraced gunpowder weapons exclusively (partly by the grace of the bayonet). Maturation of institutions sustained military revolution and exploited new technological capabilities. State finances, inextricably linked with the entrepreneurship of the commercial revolution, funded substantial navies and large land armies. The ensuing global strategic consequences led to the British military revolution circa 1721 to 1800, comprising Britain’s imperial military revolution, in which hybridity flourished. The latter invigorated adaptation, hence, innovation, and not just of technology but more significantly of institutional hybridity.

These four British military revolutions/RMAs (1450-1800) culminated in even greater armies and more intense global conflict, described as the age of revolutionary and Napoleonic warfare<sup>7</sup>.

6 Jeremy Black, *Fortifications and Siegecraft: Defense and Attack through the Ages*, London, Rowman and Littlefield, 2018, pp. 47-48.

7 Jeremy Black, *European Warfare, 1660-1815*, New Haven, Yale University Press, 1994, pp. 87-118, 168-209. The British “military revolution” of 1560-1660 is treated as an RMA, below.

*From the artillery revolution (1326-1420) and gunpowder's infantry revolution (1461-1525) to the Tudor revolution in government*

The British Isles had experienced military revolutions prior to 1450. The Norman conquest of 1066, its innovative tactics based upon interplay between heavy cavalry and archers, created via socio-military organizational skills a system that empowered a grand strategy triumphant against diversely armed adversaries from Anglo-Saxon England to the Eastern Mediterranean. Norman weapons, tactics, and logistics forged a new type of state that thrived for centuries. No gunpowder was in sight; nevertheless, the Normans constructed a paradigmatic military revolution.

See-saw evolutionary improvements from the 1320s culminated in the siegecraft of the Hundred Years' War. The terminus of the latter saw a shift around 1410 to 1430 culminating in artillery's efflorescence in the late 1440s to early 1520s, after which bastions and logistics renewed the dominance of defensive fortifications. Norman suzerainty had set in motion dynastically fueled expeditions into France, prompting later organizational, tactical, and technical advances during the Hundred Years' War (1337-1420). Edward III (1327-1377) accomplished a complex military revolution featuring men-at-arms supported by archers (with a socio-political system built around them), coupled with the infant artillery revolution<sup>8</sup>. Investments in cavalry and cannon entailed improved horse-breeding and unprecedented fiscal and logistical support, especially for field ordnance and siegecraft. Although, gunpowder had joined the medieval panoply, the limitations of contemporary metallurgy and transportation systems constrained application of England's artillery revolution. Pioneering efforts with ordnance in 1327 and 1346 to 1347, replete with struggles to afford (and manage) artillery, saw cannon improved. A mid-fourteenth century "revolution in military affairs" set the stage for triumphs in the early fifteenth century<sup>9</sup>.

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8 Andrew Ayton, *Knights and Warhorses: Military Service and the English Aristocracy under Edward III*, Rochester, Boydell, 1994; Andrew Ayton and J.L. Price, eds., *The Medieval Military Revolution: State, Society and Military Change in Medieval and Early Modern Europe*, London, Tauris, 1995; Andrew Ayton, "Sir Thomas Ughtred and the Edwardian Military Revolution", *The Age of Edward III*, edited by J. Bothwell, Woodbridge, Boydell, 2001, pp. 107-132.

9 Clifford J. Rogers, "As if a new sun had arisen", *The Dynamics of Military Revolution, 1300-2050*, edited by MacGregor Knox, and Williamson Murray, Cambridge, Cambridge University Press, 2001, pp. 20, 22; Clifford J. Rogers, "The Military Revolutions of the Hundred Years War", *Journal of Military History*, Vol. 57, 1993, 241-278; Clifford J. Rogers, "The Artillery and Artillery Fortress Revolutions Revisited", *Artillerie et Fortification 1200-1600*, edited by

English (and French) successes required “political will and financial resources” for fielding and equipping armies because a “military revolution needs a strong, well-resourced government to produce it”<sup>10</sup>. The process is described by Gervase Phillips as an “adaptive pattern of military development” in which gunpowder-assisted infantry warfare led to innovative tactical use of old technology (longbows) in conjunction with new technology (e.g., handguns)<sup>11</sup>. Tactical revolution incorporating technological innovation did not render past systems obsolescent. By the 1420s, firearms carried in the wake of punctuated artillery revolutions affected battlefield outcomes. Handheld gunpowder weaponry inflicted carnage at the Yorkist victory at Towton (1461). “Artillery revolution” and “infantry revolution”, twin components of England’s medieval RMA profited from organizational reforms (including substantial taxation) and institutional efficiency.

The early Tudors promoted the gunpowder revolution on land and at sea, initiating innovations in institutionalization and military architecture while increasing the comparative scale of operations. Henry VII (1485-1509) fused the chivalric ethos with advancements in gunpowder weaponry. His Ordnance Office employed 50 gunners. Gun-founding echoed through the Tower precincts and countryside, such as in Ashdown Forest. Foreign and native artillerymen honed their skills at Mile End<sup>12</sup>. True, Tudor royal revenues could not keep pace with continental monarchs’ expenditures on “artillery gardens”. Still, Henry VII instructed his Clerk of the Ordnance to maximize investment in the gunpowder revolution: “make provision for us of such parcells of ordnance . . . as at little price soo the stuff be good”<sup>13</sup>.

Henry’s artillery hauled against Scotland in 1496 included 28 falcons cast from Weald iron, an “ordnance corps” a thousand strong, and harquebusiers.

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Nicolas Prouteau, Emmanuel de Crouy-Chanel, and Nicolas Faucherre, Rennes, Presses Universitaires de Rennes, 2011, pp. 75-80.

10 Anne Curry, “Guns and Goddams: was there a Military Revolution in Lancastrian Normandy 1415–50?”, *Journal of Medieval Military History*, Vol. 8, 2010, pp. 171-188, p. 179, p. 187.

11 Quoted by James Raymond, *Henry VIII’s Military Revolution. The Armies of Sixteenth-Century Britain and Europe*, London, Tauris, 2007, p. 194.

12 Mark Charles Fissel, *English Warfare 1511-1642*, London, Routledge, 2001, pp. 3, 44, 305, 313.

13 National Archives, Exchequer E 404/81/4, warrant (and attachment) to William Fourneys, 25 July 1495; Fissel, *English Warfare*, pp. 44, 313 note 106; Sean Cunningham, “National War and Dynastic Politics: Henry VII’s capacity to wage war in the Scottish campaigns of 1496-1497”, *England and Scotland at War, c.1296-c.1513*, edited by Andy King and David Simpmkin, Leiden, Brill, 2012, pp. 297-328.



At the peak of the Scottish expedition 200 royal cannoneers labored within the realm.

Henry VIII inherited his father's esteem for things military. "Young Henry was deeply interested in the technology of warfare"<sup>14</sup>. Punctuated artillery revolutions dating back to the 1320s reached fruition under Henry VIII. Gunnery blossomed through technological innovation and bureaucratic initiatives. Novel artillery such as Peter Baude's breech-loading piece of 1535, featuring "three bores within its rectangular barrel, and slots at the breech for the chambers" embodied cutting-edge military technology as art<sup>15</sup>. Henry VIII possessed 139 "breech-loading guns", and closely supervised the availability of gunpowder weaponry (like his father's keeping cannon within the royal orbit and out of the hands of nobles). Licensing and centralization were hallmarks of Henrician firearms management. These dovetailed with advances in firearms that were notable during the 1450 to 1530 gunpowder revolution's profound 80-year transition<sup>16</sup>. Weaponry exhibiting qualitative technical improvement, coupled with institutional reform, facilitated Henry's grand strategy that fit the definition of an RMA. Henrician military revolutions was cumulative. Royal organizational reforms amounted to a revolution in military affairs subsumed within a macro-cosmic military revolutionary framework.

The inception (in 1511) of declared accounts in the exchequer of receipt (E 351s) clarified and made accountable extraordinary military expenditure entrusted to individuals. Henry VIII's penchant for matching men of talent to embryonic bureaucracy refined administrative processes under Cardinal Wolsey and Thomas Cromwell (the architect of Geoffrey Elton's Tudor revolution in government). Bureaucratization blended with personal patronage. Cromwell's monopolization of offices refined administration in tandem with regularization of procedure and establishment of administrative protocols. Early in the reign the habiliments of war were, consistent with medieval practice, financed as household line items and "extraordinary" expenditures. The "chamber" method of accounting, subject to the idiosyncrasies of officeholders and rather more

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14 David Loades, "Henry's Army and Navy," *Henry VIII. Arms and the Man*, edited by Graeme Rimer, Thom Richardson, and J.P.D. Cooper, Leeds, Royal Armouries, 2009, p. 51.

15 Thom Richardson, *The Armour and Arms of Henry VIII*, Leeds, The Royal Armouries, 2015, pp. 36, 40-41; Lois Schwoerer, *Gun Culture in Early Modern England* Charlottesville, Virginia, University of Virginia Press, 2016, pp. 9, 48, 50, 62-69, 113.

16 Jeremy Black, *European Warfare 1660-1815*, pp. 5, 239 endnote 7, citing Parker on "Warfare" in the *New Cambridge Modern History*, Vol. 13, Cambridge, Cambridge University Press, 1979, pp. 201-204.



personalized than bureaucratic, gradually gave way to “departments of state” characterized increasingly by institutional memory, formalization of procedure, and the mundane but empowering process of a well-oiled war machine<sup>17</sup>. In sum, the Tudor revolution in government intertwined with a Tudor revolution in military affairs.

Institutional reforms bolstered English sea power. Aspiration towards dynastic goals personified by Edward III and Henry V required the second Tudor to traverse the Channel. In 1450, what had constituted an English navy “had been reduced to nothing, and the office deputed to look after the king’s ships was discontinued”<sup>18</sup>.

The tempo and efficiency of naval administration from 1520 to 1547 was still greatly dictated by the abilities and connections of those coordinating transactions. Nevertheless, the demands of war fomented reforms to keep ships afloat, for example, line management chain of command. The crown’s officers were assigned “clearly differentiated functions, and a committee exercising collective responsibility”<sup>19</sup>. Henry endowed much-needed permanence in England’s naval establishment by assembling a Council for Marine Causes in 1546. Subsequent scaffolding would ultimately sustain the Admiralty. Officers received salaries, were organized into departments served by clerks, and managed naval matters under a Treasurer of the Navy<sup>20</sup>.

Governmental innovation enabled naval artillery’s technical improvements, for example the installation of four-wheeled “truck” gun carriages and lidded ports. “The *Mary Rose* was the first ship in England, and probably in Europe, to be built with gunports”. The gunpowder revolution created “floating gun platforms”<sup>21</sup>.

17 G.R. Elton, *The Tudor Revolution in Government*, Cambridge, Cambridge University Press, 1967, pp. 151, 222.

18 Loades, “Henry’s Army and Navy”, p. 50.

19 David Loades, *The Tudor Navy. An Administrative, Political and Military History*, Aldershot, Hampshire, Scolar Press, 1992, p. 82.

20 Loades, “Henry’s Army and Navy”, p. 57 and p. 334 note 32; Elton, *The Tudor Revolution in Government*, pp. 421-422.

21 Loades, “Henry’s Army and Navy”, pp. 51-52.

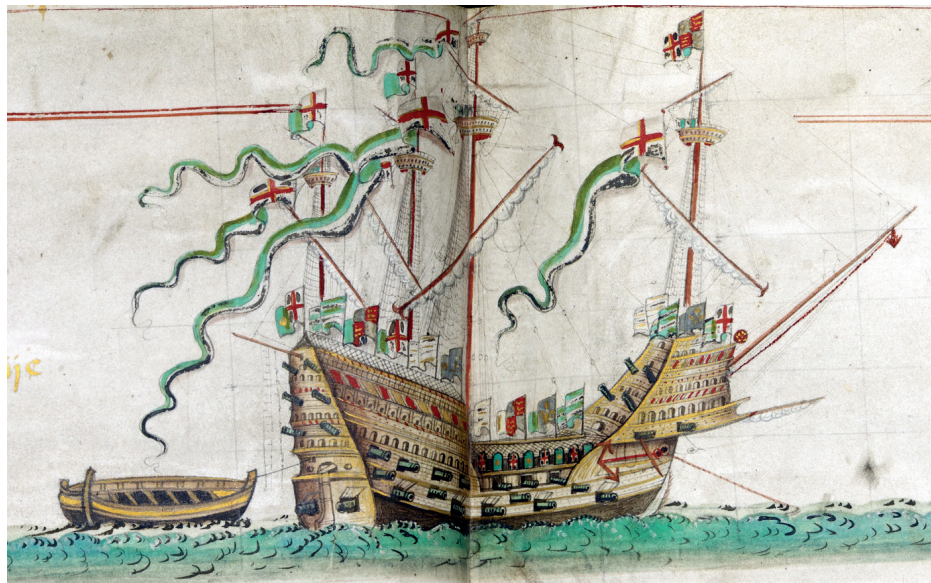


Fig. 1. The *Mary Rose*, bristling with ordnance, as depicted by a clerk of the ordnance office, Anthony Anthony in his inventory of 58 ships belonging to Henry VIII. Pepys Library Ms. 2991 (Anthony Anthony Roll of 1546) published by permission of the Pepys Library, Magdalene College, Cambridge. Grateful thanks to Catherine Sutherland, Deputy Librarian of the Pepys Library and Special Collections, Magdalene College, Cambridge. See David Loades, *The Anthony Roll of Henry VIII's Navy: Pepys Library 2991 and British Library Add MS 22047 with related material*, Routledge, London, 2000.

These devices impressed at Henry's siege(s) of Boulogne (1544) and exemplified the application of the military revolution to assault from the sea, the deck-to-shore gunfire assault<sup>22</sup>. "The English navy . . . revealed its new capability by bombarding the fortifications from the sea, and the surprise of this, as much as the damage, contributed to the surrender of the garrison"<sup>23</sup>. Henry's sea-going achievement in putting the gunpowder revolution under sail were showcased for contemporaries and posterity<sup>24</sup>.

22 Vladimir Shirogorov, "A True Beast of Land and Water: The Gunpowder Mutation of Amphibious Warfare", *The Military Revolution and Revolutions in Military Affairs*, edited by Mark Charles Fissel, Berlin, De Gruyter, 2022, pp. 240, 247, 257-259.

23 Loades, "Henry's Army and Navy", p. 56.

24 Magdalene College, Cambridge, Pepys Library Ms. 2991 (Anthony Anthony Roll of 1546); British Library, Additional Ms. 22,047.

RMA characteristics are evident in scale (50 ships, the massive armies of the 1540s, and the attendant logistical triumphs that empowered the former and latter). Technological innovations were synergized by Henrician revenue raising (including the sale of monastic lands) that exponentially boosted military expenditure. Institutional mobilization of resources financed gargantuan war efforts, especially in the 1540s, potentially creating a fiscal-military state (though the campaigns' strategic failures squandered revenue that would have strengthened the monarchy). The outlay for the 1544 campaign into France was reckoned initially at £250,000. The final bill came to £650,000, necessitated debasement of the coin of the realm, instigated oppressive taxation, and racked up a £3,000,000 debt to continental financiers<sup>25</sup>.

Henry VIII straddled the medieval and the early modern by reconciling hybrid martial innovations, for example a unique Henrician military architecture as demonstrated in his coastal fortresses, his continued incorporation of archers (and billmen, as in Ireland) into a system comparable with contemporary military science. The hybrid nature of Henrician military revolutions drew from continental practices, from Ireland, and elsewhere in the British Isles. Hybridity was inseparable from continuity, considering that the Tudors built upon gunpowder revolutions stretching back to the fourteenth century. "[B]y 1545, the English had adopted most of the military developments which had been taking place in Europe over the previous half century"<sup>26</sup>.

### *A British confessional revolution in military affairs, 1560-1660*

Shared Protestantism unified English and Scots as they built upon the military revolutionary advances of James IV, Henry VII, and Henry VIII, e.g., Elizabeth's more uniform imposition of firearms on England's militia in 1573. The Treaty of Berwick (1560) between Scotland and England thus commenced a British "confessional revolution in military affairs", aligning chronologically with the parameters of Michael Roberts' continental European military revolution (1560-1660). Confessional affinities reconciled ancient foes, both nations fearing the French incursion within the British Isles that accompanied the accession of Mary Queen of Scots. The resultant transnational association would culminate in innovative and collaborative parliamentary government by the mid-seventeenth century. The Treaty eschewed explicit mention of religion for

25 Fissel, *English Warfare*, p. 14.

26 Loades, "Henry's Army and Navy", p. 57.

reasons of diplomacy and political legitimacy. Liturgically, theologically, and organizationally England was Anglican by act of state. However, Calvinist belief and practice so permeated England's populace that the outbreak of civil war in 1642 was once attributed to a "Puritan revolution". Protestant confessional discipline fortified Scottish and English armies while it buttressed representative bodies such as the Glasgow Assembly and the Long Parliament. Monarchs were buffeted and even deposed by this synthesis of "disciplinary revolution" and RMA<sup>27</sup>. The unity of the British confessional RMA lasted until broken by battles circa 1648 to 1651.

Incessant religious warfare (ranging from the 1520s to 1648, or to 1659 if one considers the withdrawal of the last Spanish regiments from the Low Countries) provided the era's impulse to combat. Roberts' 1560 to 1660 timeframe derived from Sweden's immersion in the continental wars of religion as fought under Gustavus Adolphus (who died at the hands of Catholics at Lützen in 1632). So, though not a component of Roberts' military revolution theory, religious strife was the ghost in the machine. In terms of military innovation, especially cross-cultural exchange of weaponry and tactics, Reformed Protestantism was an incubator of military revolution. Licenses to go beyond the sea, petitions, and a printed literature circulating within the public sphere, evidenced and publicized the adventures of English and Welsh warriors in the service of international Protestantism. At least 3,000 "British" soldiers intermediated between an English way of war and continental military science, inculcating a hybridity that evolved for three centuries. On the sea, a transnational Calvinist community of privateers strained to clear the Channel, countering Spanish maritime hegemony. International and transnational armies, fighting shoulder-to-shoulder for their Reformed religious faith, shared strategic visions that incorporated "mastery of the seas" to convey the weapons, troops, and the commerce keeping alive their cause<sup>28</sup>. Elizabeth's clandestine exportation of ordnance to Protestant rebels preceded formal intervention in 1572<sup>29</sup>. The Queen's participation in

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27 This paragraph is inspired by Philip Gorski, *The Disciplinary Revolution. Calvinism and the Rise of the Modern State in Early Modern Europe*, Chicago, University of Chicago Press, 2003.

28 D.J.B. Trim, "Calvinist Internationalism and the English Officer Corps, 1562–1642", *History Compass*, Vol. 4, No. 6, October–November 2006, pp. 1024–1048; D.J.B. Trim, "Transnational Calvinist Cooperation and 'Mastery of the Sea' the Late-Sixteenth Century", *Ideologies of Western Naval Power, c. 1500–1815*, edited by J.D. Davies, Alan James, and Gijs Rommelse, London, Routledge, 2019, pp. 153–187; Fissel, *English Warfare*, pp. 137–153.

29 D.J.B. Trim, "The secret war of Elizabeth I: England and the Huguenots during the early

conjunctive warfare against Philip II's attempts to extirpate Calvinism (despite Elizabeth's loathing of rebellion) proved the mettle of the confessional RMA. Britons fought for the Netherlandish towns and Dutchmen drilled in Norfolk with the English militia.

What happened in the 1560s (the Anglo-Scottish alliance, Dutch resistance to Philip II, etc.) falls within the RMA classification because these strategic responses were part of the Protestant disciplinary revolution. The Netherlands' success in resisting Habsburg imperialism stemmed from that culture's embrace of the economics and ideology of the disciplinary revolution which created a new operational approach to sixteenth century warfare. The latter entailed the reforms of the House of Nassau, institutionally but also in the application of military technology<sup>30</sup>. The latter formula, Protestant ideology incorporated with the possibilities of the gunpowder revolution, is what Michael Roberts identified when analyzing a resonant example in the warfare of Gustavus Adolphus, framed within a century (1560-1660). The confessional RMA's reforms rested upon the pervasive disciplines of Protestant liturgy and theology.

Stadtholder Prince Maurice van Nassau, as captain-general of the States-General's army, commanded English and Scots regiments in the Low Countries. Maurice's standardization of training and equipment, mirroring the uniformity of liturgy, commercial practices and close cooperation with the States-General, improved firepower and served as a force multiplier. The Nassau's was an RMA that combined organizational reform, effective application of gunpowder technology, and tactics (e.g., volley fire). Maurice articulated this synthesis when he declared that he "placed his trust, after God, in the perpetual drilling of his troops"<sup>31</sup>. Incessant drill, with live ammunition, was unprecedented in its intensity, to the degree that these methods created a genuinely professional army in the service of the States-General. This fusion of the components of the disciplinary revolution proved itself at the battle of Nieuwpoort on 2 July 1600, in which English regiments (led by the Veres) frequently took the initiative<sup>32</sup>.

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Wars of Religion, 1562-77", *Proceedings of the Huguenot Society of Great Britain and Ireland*, Vol. 27, No. 2, 1999, pp. 189-199.

30 Parker, "The Limits to Revolutions," pp. 331-372.

31 Quoted in Parker, "The Limits to Revolutions", p. 351.

32 Fissel, *English Warfare*, pp. 138, 173-176, 186; Parker, "The Limits to Revolutions", pp. 331, 337-366; Gorski, *Disciplinary Revolution*, p. 73; J.P. Puype, "Victory at Nieuwpoort, 2 July 1600", *Exercise of Arms. Warfare in the Netherlands (1568-1648)* edited by M. van der Hoeven, Leiden, Brill, 1997, pp. 76-87 (especially pp. 77 and 87); Bouko de Groot, *Nieuwpoort 1600. The First Modern Battle*, Oxford, Osprey, 2019, pp. 25-30, 47, 75, 89-91.

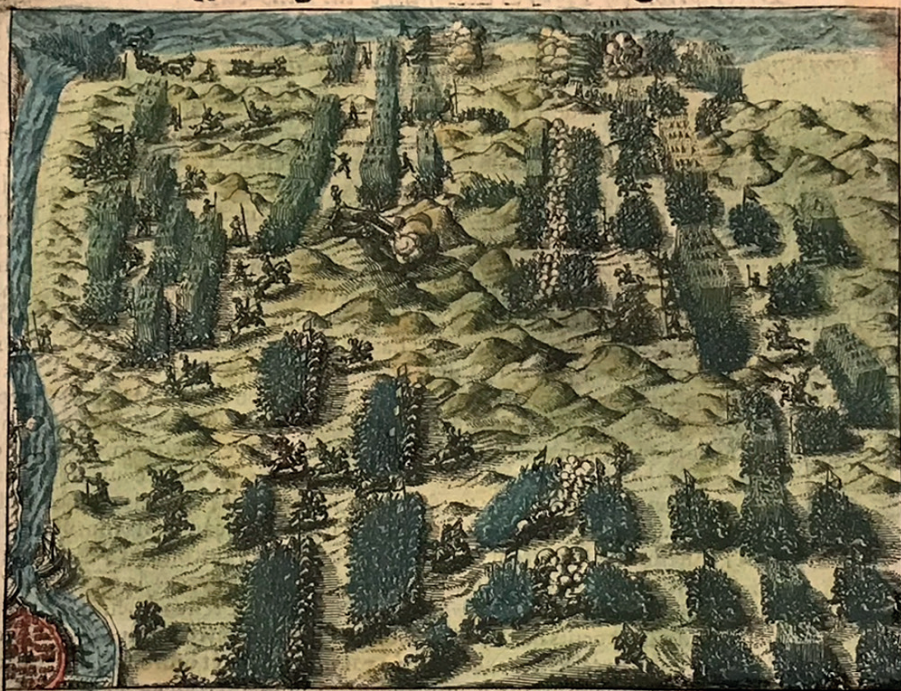




Fig. 2. In this combat of 14 October 1585 at the confluence of the Ijssel and the Rhine River (the Isselwerdt sponce) near Arnhem, water was used defensively (as a moat to defend the bastion salients) and offensively (to apply waterborne flanking fire that complemented the land batteries). The “Britanni” assault force, commanded by Sir John Norris, was under orders from their sovereign (Elizabeth I) that they should attempt to maintain a defensive posture. Norris, in tune with his Dutch allies, interpreted those intentions tactically as “the best defense is a good offense”. Rough translation: “To the eternal praise of the Britons worthy of war, I sent other battles, many contests, and every time I subdued the enemy’s hands, they stormed the enemy’s camp with great fury”. The engraving is from Willem Baudart’s *Les guerres de Nassau, descriptes par Guillaume Baudart* p. 175, published by M. Colin (Amsterdam, 1616), author’s collection. See Shirogorov, “A True Beast of Land and Water: The Gunpowder Mutation of Amphibious Warfare”, p. 258, figure 6; thanks to D.J.B. Trim for information on this action.

(247) *Sous Philippe III. gouvernant l' Arch. Albert & le Prince Maurice,*

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*Ire hostem ad bellum juvat, indulgere furori* \* *Dux milesq. SCOTUS, pariter manifestat IBERI*  
 247 *Injano suadet victoria prima; cadebant* *Persidia apparet quem max vindicta sequetur.*

Fig. 3. The oft-noted discipline of the Protestant forces at Nieuwpoort overcame potentially conflicting national command structures and language barriers. Rough translation: "He helps the enemy to go to war, he advises the madman to indulge his fury, the first victory falls, the general of the Scots soldiers also manifests the treachery of the Iberians, whom the greatest vengeance will follow". The engraving is from Willem Baudart's *Les guerres de Nassau, descriptes par Guillaume Baudart* p. 247, published by M. Colin (Amsterdam, 1616), author's collection.



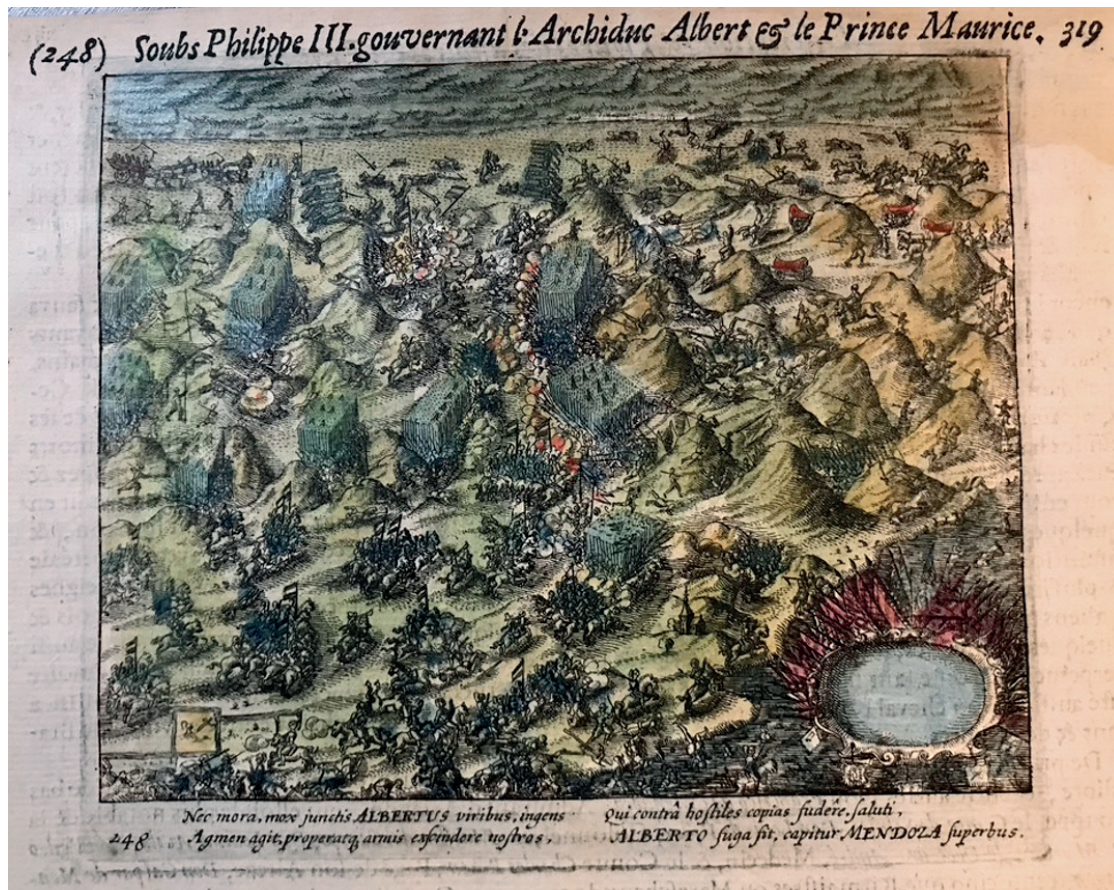


Fig. 4. The Veres, Sir Francis and Sir Horace, made the English contribution at Nieuwpoort more than notable. Rough translation: "And do not tarry, when Albertus has joined his forces, a huge army is marching, hastening to cut off our weapons, which against the enemy's forces may be drawn to save Albertus, the proud Mendoza is captured." The engraving is from Willem Baudart's *Les guerres de Nassau, descriptes par Guillaume Baudart* p. 248, published by M. Colin (Amsterdam, 1616), author's collection.

Inspired by classical formations and tactics, Maurice's military revolution echoed the RMA of Philip of Macedon. Training attained higher levels of professionalism. Weapons systems were modified in tandem with consequent tactical adjustments that brought stunning success. Reforms in logistics and command sustained the aforementioned. However, the international defense of confessional states possessed further advantage from shared spiritual fellowship (and common enemies), imbuing cohesion amongst fighting men. Battlefield performance was sometimes overseen by chaplains (just as priests accompanied Catholic armies). Theologically based notions of resistance theory (however inchoate among the unlettered) inculcated fighting spirit while harnessing the discipline of Calvinism thus promoting efficient state power. Much has been made of late regarding martial "emotion", the psychological state of mind and motivations of early modern soldiers<sup>33</sup>. The *esprit de corps* of Reformed transnational military collaborations bound, integrated, and regimented soldiers. Drilled with fervor, exploiting pike and firepower, spiritual discipline coupled with martial rigor maximized survival and fulfilled God's will. The blunting of Catholic Europe's attempts to extirpate Protestantism, in which the Nassaus and later Gustavus Adolphus were instrumental, fits the definition of producing "socio-political implications or repercussions" on a grand strategic, indeed global, scale<sup>34</sup>.

The confessional RMA's multi-levelled discipline and empowering conviction of salvation facilitated the execution of military revolutionary tactics. The mechanics of the early modern infantry revolution are graphically presented in Jacob De Gheyn's engravings for instruction in ordering the musket and pike. The Calvinist "disciplinary revolution" entailed "refining and diffusing a variety of disciplinary techniques and strategies", and these permeated the conduct of war<sup>35</sup>. Calvinist discipline made more efficacious the social institutions that sustained the war machine. This RMA was truly endogenous, permeating the cultural fabric. In Gorski's words, "new technologies of discipline were applied to a widening array of social realms"<sup>36</sup>. The early modern "state", however, (including its collective "consciousness" as a strategic culture) was more a product of infrastructure than simple centralization of state bureaucracy, welling up from within the social discipline (as opposed to being imposed from the Privy Council, so to speak). Produced by intellectual and social movements from

33 See below for the 1700s, e.g., Dalrymple and Lloyd.

34 The phraseology is that of Lee L. Brice.

35 Gorski, *The Disciplinary Revolution*, abstract.

36 Gorski, *The Disciplinary Revolution*, p. 75.

within as opposed to a new weapon or tactical organization imposed exogenously, from officialdom, what occurred in England and to a slightly lesser degree in Scotland was an RMA. Its culmination, the New Model Army (1645-1660), mastered the weapons and tactics of the military revolution and then intervened to create a new form of government<sup>37</sup>. Britain learned the lessons of the military revolution by turning upon itself in the Wars of the Three Kingdoms. What were those lessons? How to manage resources and use them efficaciously. Military hardware in the hands of the New Model Army was clearly decisive, even though the soldiery's weaponry and tactics were not qualitatively different from the previous century<sup>38</sup>.

### *Scotland's confessional RMA, 1560-1651*

Scotland had fashioned its own military revolution before embarking on the confessional RMA in 1560. The battle at Flodden on 9 September 1513 should have been a legendary victory for Scotland, to be ranked alongside that of William Wallace and his tactically ingenious *schiltrons*. James IV (1488-1513) had embraced both cannon and the latest pike formations. Although the first two Tudors had invested in the gunpowder revolution, it was James IV who had fielded the more "modern" army. Poor tactical dispositions on uneven terrain at Flodden spelled defeat for Scotland. Traditional English weapons, longbows and bills, proved effective. None the less, James IV's military organizational achievements impressed because, comparatively speaking, his northern kingdom had fewer resources and a decentralized political structure. The Scottish king paralleled Henry VIII's trajectory, strengthening his fleet, constructing the *Michael*, boasting two dozen bronze ordnance and bristling with auxiliary guns. However, at the time of Flodden, Scottish warships had deployed to France, in what was yet another tactical blunder<sup>39</sup>.

Leadership aside, though, Scotland invested in the technology of the early 1500s, including carrying gunpowder weapons to sea. Scotland's development as a state, and the invigoration of its economy, benefited from pursuit of a naval

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37 Ian Gentles, *The New Model Army: Agent of Revolution*, New Haven, Yale University Press, 2022.

38 See Kevin Sweeney on the "uncertain revolution" in chapter 5 of *Guns and Governments: Creating and Arming Militias in England and America, c. 1300 to 1812*, forthcoming.

39 Murdoch, *The Terror of the Seas?* Leiden, Brill, 2010, pp. 33-34.





Fig. 5. An all-embracing discipline: fighting, praying, conducting one's affairs. Jacob De Gheyn's utilitarian engravings (1607) illustrating the sequences necessary to master the art of war. One false step spelt doom. Author's collection.



Fig. 6. Battle of Flodden, September 1513, engraving in *Kaiser Maximilians Weisskunig* volume 2 (W. Kohlhammer Verlag, Stuttgart 1956) p. 206, author's collection.

revolution of sorts<sup>40</sup>. Scotland, like O'Neill's Ireland (below), kept pace with the gunpowder revolution. Success in remaining independent of England and France, coupled with evidence of actual military practices, demonstrates proficiency in the art of war.

Throughout the wars of religion, Scots were active protagonists on the continent, as documented by Steven Murdoch, Alexis Grosjean, and Edward Fur-

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40 Sean Grant, "Scotland and the Early Modern Naval Revolution, 1488-1603", PhD dissertation, University of Guelph, 2014.





Fig. 7. The siege of Leith (1560) commenced the British confessional revolution in military affairs. The classic poliorcetics of the early modern military revolution are evident: angle bastions, attempts at circumvallation, mining, formidable batteries of cannon, etc. The map is published courtesy of Lord Egremont of Petworth House, with the assistance of Alison McCann (archivist to Lord Egremont and the Leconfield Estate), and Diane Ladlow (searchroom supervisor at the West Sussex Record Office).

gol. "[T]he Scottish way of war fits well into the broader European context"<sup>41</sup>. The initiation of bastioned fortifications at Berwick-upon-Tweed in 1558, the troubled but ultimately successful campaign against the French (including the besiegement of Leith) in 1560, and the reduction of Edinburgh Castle (1573) demonstrated that English and Scottish allies grasped contemporary warfare<sup>42</sup>.

41 Gervase Phillips, "Scotland in the Age of the Military Revolution 1488-1560", *A Military History of Scotland*, edited by Edward M. Spiers, Jeremy A. Crang, and Matthew J. Strickland, Edinburgh, Edinburgh University Press, 2012, pp. 182-208 especially p. 189.

42 Fissel, *English Warfare*, pp. 114-123, 135-136.

Scotland, joined with England and the Dutch Republic in a Calvinist-infused RMA, produced the exemplary Covenanting armies that marched to the Tyne (accompanied by their Presbyters) in 1640. The Scots army exceeded in all ways their English adversaries in 1639 and 1640, unsurprisingly so. The Scots had learned Gustavus Adolphus' methods during the Thirty Years' War (1618-1648)<sup>43</sup>. The National Covenant provided "infrastructure of governance" permeating a disciplined polity capable of defeating England initially, though it would be eclipsed by English armies even more infused with the RMA at Dunbar (1650) and Worcester (1651)<sup>44</sup>. A militant Scotland set in motion the fall and regicide of its own (Protestant) monarch, between 1637 to 1649. The British civil war of 1642 to 1645 pitted English parliamentarians and Scots Covenanters against their sovereign. This marriage of political convenience, military science, and resistance theory crumbled during the second civil war of 1648 when many Scots made common cause with the royalists, culminating in the parliamentary victory at Preston. The Anglo-Scottish bond broke entirely with the contests at Dunbar and Worcester. Cromwell borrowed tactical lessons, such as the battle-field deployment of dragoons and heavy cavalry, from Gustavus Adolphus, the latter arguably the personification of the confessional RMA<sup>45</sup>.

How military revolution intertwined with "infrastructure of governance" is documented in Oliver Cromwell's post-battle missive to the Speaker of the House of Commons. The chaplain George Fox recalled, "O.C. at Dunbar fight had promised to the Lord that if he gave him the victory over his enemies, he would take away tithes, etc". Vindicated, Cromwell urged governmental reform to Speaker William Lenthall, to "'hear the groans of poor prisoners in England; be pleased to reform the abuses of all professions; and if there be any one that makes many poor to make a few rich, that suits not a Commonwealth'". Cromwell had effectively ended the Wars of the Three Kingdoms, and victory compelled parliament to "relieve the oppressed"<sup>46</sup>.

The confessional and political coalition that comprised a British "Calvinist-led RMA" which succeeded ultimately in toppling a monarch no longer

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43 Edward Furgol, "Scotland turned Sweden: The Scottish Covenanters and the Military Revolution 1638-1651", *The Scottish National Covenant in its British Context*, edited by John Morrill, Edinburgh, Edinburgh University Press, 1990, pp. 134-154.

44 Gorski, *The Disciplinary Revolution*, p. xvi.

45 Martyn Bennett, *Cromwell at War: The Lord General and his Military Revolution*, London, Tauris, 2017.

46 Blair Worden, *The Rump Parliament 1648-1653*, Cambridge, Cambridge University Press, 1974, p. 237.



shared a common enemy. This British military revolution (having reached its apogee in Cromwell's victories against the royalists, Irish, and Scots) ended with the disbandment of New Model Army and the restoration of the Stuarts circa 1660<sup>47</sup>. The most profound of any British military revolution incarnate, the New Model Army, was swept away by the political ambivalence of what remained of the "infrastructure of governance" in 1660. In Gilbert Burnet's words, "the bravest, the best disciplined, and the soberest army that had been known in these latter ages," was dissolved<sup>48</sup>. The collective memory, skills and institutional continuity that sustain the rhythm of the punctuated equilibrium of military revolutions were thus sacrificed upon the altar of domestic political stability. Charles II spun the demobilization as evidence he (unlike his father) would not unloose an army upon his own subjects. The constraining political circumstances of Restoration-era Britain dictated its military. Control of armed force remained problematic, unresolved until William III settled the monarchy.

The existence of a confessional RMA among Britons and their allies does not denigrate the Spanish contribution to military revolution. Protestantism had no monopoly on religious comraderies that inculcated fighting spirit. The example of Ignatius Loyola proves otherwise. However, for the Reformed Protestant cause, the wars of religion were the singular showdown between good and evil, and their lives hung in the balance. For Catholic soldiers the wars of religion were yet another chapter in the centuries-old suppression of heresy, with the notable exception of the Gaelic Irish, for whom self-determination and freedom from exploitation were powerful motivating forces tantamount to fighting for survival. In truth, Calvinist resistance theory was not genuinely revolutionary considering its roots in Catholic political theory. Indeed, those opposing the Catholic powers devised justifications that likewise drew from Christian literature<sup>49</sup>. The interaction between military revolution and religious conflict was most evident in Ireland, where England's predatory rulers had, long before the Reformation, suppressed a native population.

47 Henry Reece, *The Army in Cromwellian England, 1649-1660*, New York, Oxford University Press, 2013.

48 Quoted by John Childs, *The Army of Charles II*, London, Routledge, 1976, p. 10.

49 Quentin Skinner, "The Origins of the Calvinist Theory of Revolution", *After the Reformation. Essays in honor of J.H. Hexter*, edited by Barbara Malament, Pennsylvania, University of Pennsylvania Press, 1980, especially pp. 313-315, 319, 324-326, and 327 note 15.

*Ireland 1210-1798: Invasions and military revolutions*

Did the Irish theater of war, subject to incessant violence, produce military revolutions? Ireland's involvement with warfare between 1450 and 1800 was inseparable from English politics. Ireland's logistics challenged Norman and Angevin rulers. King John (1199-1216) implemented an institutional "military revolution" during expeditions to Scotland (1209) and to Ireland (1210). The latter enterprise deployed 700 ships, mobilized troops, and raised money via the royal household, administered by the Wardrobe. Feudal levies were few, favoring soldiers that received the King's wages (*prests*). Paid by the Clerk of the Chamber, *prests* were not expected to be reimbursed. (The fiction that these were loans rather than wages catered to chivalric notions that feudal service was more honorable than serving for coin). The *prestita* roll's far-reaching innovation in army finance was of the same species as the declared accounts of 1511, a fiscal procedure of logistical impact, making possible strategically daunting invasions. These medieval practices established precedent for John's successors, when royal martial ambitions were constrained by the technicalities of feudal levies<sup>50</sup>.

A "Celtic" or "Gaelic" military revolution based upon weapons and tactical innovations also originated in the twelfth century. Galloglass heavy infantry could defeat the formidable Norman synthesis of heavy cavalry and light infantry. The recruitment and cultivation of galloglass was an infantry revolution not unlike the ancient Greek hoplite revolution, though the social ramifications of the use of galloglass pales in comparison with the political and social impact of hoplites. Nevertheless, the longevity and efficacy of the galloglass could be classified as military revolutionary characteristics<sup>51</sup>.

For Ireland the situational context and nature of the enemy were paramount. From 1450 to 1800 Ireland rarely had either the cohesion or independence as a "state" to develop formalized centralized military institutions. When not repulsing English interventions, Irish forces were diverted into English dynastic struggles as allies, or the English crown fomented discord among the clans. In terms of weaponry, certain "ethnic" arts of war were associated with Ireland (both Gaelic and the increasingly Gaelicized old Anglo-Norman families), e.g., galloglass and kerns. Those specialized warriors were recruited in Edward III's

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50 Stephen Church, "The 1210 campaign in Ireland: evidence for a military revolution?", *Anglo Norman Studies*, Vol. 20, 1988, pp. 48-50, 55-56.

51 Ian Beckett, review of "War, identity, and memory in Ireland", *Irish Economic and Social History*, Vol. 36, 2009, p. 3.

armies in the Hundred Years' War, wherein Irish light horsemen distinguished themselves. Irish soldiers joined the Yorkist war machine at Wakefield (1460) and Towton (1461).

The Lancastrian Tudors unleashed Sir Edward Poynings against the Fitzgeralds and their allies, who mounted numerous campaigns across the Irish landscape. Irish blood spilled upon Stoke Field (1487) made clear that support of the Yorkists was expensive and futile. However, the debilitating results of martial adventurism cut both ways. Ireland revealed the limitations of any Tudor military revolution. The Kildare revolt (1534-1535) was suppressed with infuriating difficulty. Despite the modest sizes of the armies dispatched (at most a few thousand soldiers), incursions across the Irish sea were plagued by recruiting problems, including mutiny. At least two royal cargoes were "hijacked" (one being equestrian resources). Though a result of the suppression was a "militarization" of English rule from the Pale, control from London remained tenuous. The logistical and political impediments to campaigning in Ireland utterly confounded the impressive institutional and technological achievements of Henry VIII's military revolution.

Wealth was central to the conflicts between England and its neighbors. Ireland's geography, comparative poverty, colonization, and scale of government (partially reflective of a "clannish" social structure) combined to encumber an indigenous form of "Celtic" warfare that, so it was said, neither embraced continental military revolutions nor had the capability to do so. Allegedly, only in the early 1700s did Ireland catch up to the "modern" art of war<sup>52</sup>.

Archaeological and historical evidence have now proven that the forces of Hugh O'Neill, Earl of Tyrone, had mastered firearms and developed efficacious tactics well-suited to the Irish landscape. Tyrone's Rebellion (1593-1603) assimilated the style of war practiced in continental Europe. Irish infantry and military architecture absorbed the contemporary "military revolution" within a unique Irish context. Tyrone had served in English armies. Additionally, the transnational nature of Catholic armies imbued Irish forces with international military expertise. Jesuit chaplains steeped in a clerical culture founded by

52 See "Ireland" in Mark Charles Fissel, "Military Revolutions." *Oxford Bibliographies in Military History*, edited by Kaushik Roy, New York, Oxford University Press, <https://www.oxfordbibliographies.com/view/document/obo-9780199791279/obo-9780199791279-0212.xml>; Padraig Lenihan, "Conclusion: Ireland's Military Revolution(s)", *Conquest and Resistance. War in Seventeenth-Century Ireland*, edited by Padraig Lenihan, Leiden, Brill, 2001, pp 345-369.



Fig. 8. A musketeer practices: Alexander Taratynov's bronze figure based on Rembrandt's painting "*Schutters van wijk II onder leiding van kapitein Frans Banninck Cocq*" (a.k.a. "The Night Watch") while installed at Tsarskoye Selo, Russia. Author's photograph.





Spanish soldier Ignatius Loyola created their own “infrastructure of governance.” Catholic troops were integral participants in hybrid military technology transfers. Tactical training was provided by Philip II’s battle-tested veterans. Elizabeth’s forces triumphed only when the Spanish-inspired strategy of the Kinsale campaign transformed the tactical situation (while gunpowder was running out for O’Neill’s troops)<sup>53</sup>.

Tyrone achieved a Gaelic military revolution, yet Irish independence remained elusive due to four factors. (1) Adaptation of the vaunted *trace italienne* was useless. (2) Irish demographics imposed a “mobilization ceiling”. (3) English institutional advances (including an established navy) gave the invader advantages in logistics and hence strategy: “English armies in Ireland were not generally prisoners of logistical constraints”. (4) Tactical choices by commanders (e.g., Aguila’s choices at Kinsale, and Oliver Cromwell’s targeting of civilian objectives) mattered. In the latter case, neither Mountjoy nor William III enjoyed complete victory comparable to 1649. “There was only one military revolution in Ireland” and that was Cromwell’s<sup>54</sup>. A fifth impediment may be cited: political vulnerabilities had more to do with Irish defeat in the Nine Years’ War than did military considerations<sup>55</sup>. Political weakness (dependency upon the efficiency of clannish and regional confederations) constrained exploitation of an Irish way of war that developed in the 1590s under Tyrone’s leadership. More institutionalized Irish armed forces materialized after the 1641 rising. The Irish “state” itself was an engine of war. From 1641 to 1649 it functioned well in a defensive capacity. The successes of the Irish Confederate Catholics in 1643, when they “were winning the war of siegework and subsistence”, were followed by victories through 1644 to 1646. Still, while the Confederates reprised the achievements of Tyrone’s 1590s military revolution, the defenders could not

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53 James O’Neill, “Their skill and practise far exceeding their wonted usage: the Irish military revolution, 1593-1603”, *Becoming and belonging in Ireland AD 1200-1600*, edited by Audrey Horning, Elizabeth Fitzpatrick, and Eve Campbell, Cork, Cork University Press, 2016, pp. 77-93; James O’Neill, *The “Nine Years War”, 1593-1603: O’Neill, Mountjoy and the Military Revolution*, Dublin, Four Courts Press, 2017. James O’Neill, “Firearms and Fieldworks. Military transformation and the end of Gaelic Ireland”, *The Military Revolution and Revolutions in Military Affairs*, edited by Mark Charles Fissel, Berlin, De Gruyter, 2022, pp. 177-201.

54 Lenihan, *Conquest and Resistance*, p. 367.

55 Ralph Loeber, and Geoffrey Parker, “The ‘Military Revolution’ in Seventeenth-century Ireland”, *Success is Never Final. Empire, War, and Faith in Early Modern Europe*, edited by Geoffrey Parker, New York, Basic Books, 2002, pp. 169-191.

sufficiently “scale up” to win the decisive victory<sup>56</sup>.

In 1689 to 1690, “scale” and leadership, not technological superiority, tilted the balance against Irish independence. Inspired by his adherents’ dogged (but unsuccessful) defense of Derry, William III intervened personally by confronting James Stuart at the River Boyne, near Drogheda. “Scale” factored in that William fielded 25,000 more soldiers. Money and institutional vitality fortified the larger Williamite army. Tactical choices figured in the outcome because James deployed the bulk of his troops against a feint, yielding an opening for William’s decisive blow. The subsequent battle of Aughrim (1691) doomed the development of a Gaelic army when 16,000 of the best Irish warriors were exiled to continental service. In the aftermath, the Crown’s Irish military establishment came into being, with a standing army. Wealth wielded by parliamentary involvement lorded over Dublin, where “a wholly dominant Protestant minority ruling elite” administered a fiscal-military state that waged four substantial wars circa 1689 to 1763<sup>57</sup>. The conquest of Ireland as a “first colony” thus played a role in the birth of the fourth British military revolution (1720-1800) that was characterized by further imperial expansion. The contest at Arklow (a close-run thing) saw opposing sides armed similarly. Artillery had progressed mightily by 1798. The insurgents ordered (captured) cannon handily. No military revolution provided an edge to either side. By 1800 there had been only two substantive military revolutions in the Irish theater: O’Neill’s of the 1590s and that of Oliver Cromwell.

### *Britain 1650-1721: Political economy and military revolution*

The Interregnum Commonwealth and Protectorate collapsed between 1658 to 1660. Britain’s “disciplinary revolution” did not. Civil-military efficiency advanced, responding to the “demand for tradeables which spurred invention and innovation”<sup>58</sup>. The broadening “infrastructure of governance”, embodied

56 Padraig Lenihan, *Confederate Catholics at War, 1641-49*, Cork, Cork University Press, pp. 37, 69, 220.

57 Charles Ivar McGrath, “Waging war: the Irish military establishment and the British empire, 1688–1763”, *The Primacy of Foreign Policy in British History, 1660–2000*, London, Palgrave Macmillan, 2010, pp. 102-118.

58 Abstract, Bernard C. Beaudreau, “Calvinism, Huguenots and the Industrial Revolution”, 84th International Atlantic Economic Conference, 5 October 2017: [https://www.researchgate.net/profile/Bernard-Beaudreau/publication/316747686\\_Calvinism\\_Huguenots\\_and\\_the\\_Industrial\\_Revolution/links/59108e8c458515bbcb4ad880/Calvinism-Huguenots-and-the-Industrial-Revolution.pdf](https://www.researchgate.net/profile/Bernard-Beaudreau/publication/316747686_Calvinism_Huguenots_and_the_Industrial_Revolution/links/59108e8c458515bbcb4ad880/Calvinism-Huguenots-and-the-Industrial-Revolution.pdf).



in the influential bourgeois social base of the mercantile community, congealed socio-politically the ability to wage war<sup>59</sup>. Buttressed by parliament, mercantile interests acquired force projection capabilities. Diverse and highly autonomous royal charters structured colonialism in North America and elsewhere, authorizing corporate bodies to utilize violence. Policies intrinsic within the Navigation Act (1651) moved “England’s centralized territorial state away from an essentially extractive relationship with overseas commercial and colonial expansion – whereby the state attempted to ‘arbitrarily’ raise revenues from such expansion – toward a new relationship in which *the state was fully committed to providing the public infrastructure and military protection* necessary for the unlimited flow of English trade, shipping, and investment across the globe”<sup>60</sup>.

All participants in the confessional RMA (England, Scotland, and the United Provinces) had “turned to the sea” through private mercantile ventures in collaboration with representative government. Simultaneously, domestic disciplinary revolution thrived even as the international coalition broke down. England fought both Scotland and the Netherlands in the 1650s. Capitalism now overshadowed religious affinities as evidenced by the Anglo-Dutch trade wars (1652-1654, 1665-1667, and 1672-1674). Bourgeois infrastructures (e.g., the Levant Company, the East India Company, and the variegated chartered entities colonizing North America) resonated the old confessional RMA in the sense that maturing capitalist business practices became “regularized” and intimately associated with parliamentary government, a trend continuing indefinitely despite the monarchically imposed setback of 1660 to 1688. The Restoration saw a Stuart temporarily turn back the clock by attempting to narrow the “infrastructure of governance” in Britain. Overseas commerce was politicized and subverted to serve as a source of capital for the monarchy, modeled after Charles I’s dealings with the Levant Company<sup>61</sup>. While an extractive and Whitehall-regulated mercantilism was reprised, the professionalism instilled via the disciplinary revolution nonetheless persisted.

Regulated commerce also shared values with military professionalism. Merchant and soldier subscribed to a disciplinary ethos. The 1660 to 1720 British

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59 Gorski, *The Disciplinary Revolution*, pp. 166-168.

60 My emphasis. James M. Vaughn, *The Politics of Empire at the Accession of George III. The East India Company and the Crisis and Transformation of Britain’s Imperial State*, New Haven, Yale University Press, 2019, pp. 19-20.

61 Mark Charles Fissel, “Early Stuart Absolutism and the Strangers’ Consulage”, *Law and Authority in Early Modern England*, edited by B. Sharp, and M.C. Fissel, Newark, New Jersey, University of Delaware Press, 2007, pp. 186-223.

military revolution institutionalized unique regiments. The Coldstream Guards (Monck's New Model veterans reconstituted in 1650), the Grenadiers, the Blues and Royals, provided personal security for the monarch, guarded precious metal shipped to Portsmouth to sustain the navy, and suppressed rebels. The latter occurred in 1661 when, expeditiously, Monck's regiment laid down arms to be rechristened. Britain's military establishment was consciously designed, not retrofitted as a relic of bygone eras. Cautiously and deliberately, Charles II's armed forces started with a relatively clean slate, and regiments coalesced to fulfil specific needs, for example the Royal Marines. The Maritime Regiment, or Lord Admiral's Regiment, was born on 28 October 1664, under aporetic circumstances risking a royal violation of the Act of Disbandment. "Land Souldjers" recruited "for Sea Service" might have become the dreaded Stuart standing army. Or, presciently, Charles II envisioned a semi-permanent establishment of specialized seagoing soldiers for overseas trade. The "marine" regiment (christened thus after the Sole Bay action of 1672) participated in the second and third Dutch Wars, fighting under the Duke of Monmouth as well as future first Duke of Marlborough<sup>62</sup>. The regiment deployed across the Channel in 1678 and in 1680 weathered a victorious pitched battle for Tangier. The latter campaign constituted "the British Army's first major expedition abroad"<sup>63</sup>.

Despite these achievements, there was little impetus for imperial garrisons with no "empire to support"<sup>64</sup>. Conquest was better initiated through entrepreneurs rather than by royal entities. To quote James Vaughn again: "With the restoration of the Stuart monarchy the EIC [East India Company] came to play an important role in King Charles II's and King James II's efforts to create an autocratic and tributary empire that would free them from financial dependence on Parliament [again, not unlike Charles I and the Levant Company]. The company was one instrument with which the Stuart monarch sought to consolidate an absolutist political economy that allowed it to rule above civil society instead of through it"<sup>65</sup>.

The Glorious Revolution of 1688 to 1689 resumed the widening of the "in-

62 L. Edye, *The Historical Records of the Royal Marines*, Vol. I, 1664-1701, London, Harrison and Sons, 1893; Mark Charles Fissel, review, *Journal of Military History*, Vol. 79, No. 2, April 2015, pp 479-480.

63 Hew Strachan's dustjacket blurb on A.J. Smithers, *The Tangier Campaign. The Birth of the British Army*, Stroud, Tempus, 2003.

64 Charles Carlton, *This Seat of Mars. War and the British Isles 1485-1746*, New Haven, Yale University Press, 2011, p. 183.

65 Vaughn, *The Politics of Empire*, p. 13.

frastructure of governance”, unshackling trade and further professionalizing the armed forces. After the Tangier campaign(s) one could speak of a “British Army”, something to be built upon in the 1690s and beyond. For example, although the marine regiment did not survive the Glorious Revolution intact (disbanded 28 February 1689), William III resuscitated the Royal Marines for the Nine Years’ War. Tailor-made regiments continued to receive permanent footing and garnered institutional identity, blossoming into a sizeable and facile army competitive with continental armies. In this spirit, the East India Company assembled forces that harmonized with the mother country’s increasingly professionalized military establishment. The symbiotic relationship encouraged innovations that furthered its goals. Britain’s financially energized strategic culture facilitated assimilation of the technical modifications of the “breechloader revolution.” Organizational strengths enhanced utilitarian elements of 1700s warfare (bayonets, platoon-fire, naval innovations, etc.). The transition from muskets to flintlocks aided by the adoption of pre-packed cartridges and socket bayonets endowed foot-soldiers with shock and firepower, undergirded by drill, institutionalization, and standardization<sup>66</sup>.

The increasingly professionalized Navy and Army were further yoked to commercial expansion under the “Whig supremacy” (1714-1760). A mercantile-friendly infrastructure of government nourished Britain’s “organisational cohesion and staying power of their state and corporate organisations”<sup>67</sup>. The East India Company now came of its own, sustained by the Whig political economy. Like Rome, the British Empire rested upon military efficiency, innovative bureaucratization, and “superior financial capabilities”. Azar Gat sums it up: “The more liquid financial resources of Britain’s far more commercialized economy were the key to its success . . . . [Its] colonial empire [occupied] a commanding position over global war [that] laid the foundations for greater wealth creation”<sup>68</sup>. Weaponization of plenitude via the commercial revolution leveraged out European rivals, enabling absorption of indigenous riches with the assistance of indigenous allies. Britain’s “financial revolution” enabled military capabilities (including the application of new weapons systems) and birthed the fiscal-military state. John Brewer, the pre-eminent advocate of the model, argued that “[w]ar was an economic as well as military activity: its causes,

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66 Lenihan, *Conquest and Resistance*, pp. 356, 362-367.

67 J.E. Willis, quoted by Black, *European Warfare 1660-1815*, p. 3.

68 Azar Gat, “What Constituted the Military Revolution of the Early Modern Period?” *War in an Age of Revolution, 1775-1815*, edited by Roger Chickering, and Stig Förster, Cambridge, Cambridge University Press, 2010, p. 43.

conduct and consequences as much a matter of money as martial prowess”<sup>69</sup>. Despite Brewer’s ambivalence toward the military revolution concept, case studies of Britain’s “fiscal-military state” proliferated as revisionist correctives to fixations upon technology and tactics. However, “fiscal-naval state” might better mesh with military revolution revisionism<sup>70</sup>. The naval dimension enhanced the military revolution formula: stunningly improved firepower, innovative (hybrid) tactics, momentous institutionalization, and fulfilment of grander strategies. Expressed succinctly, “[o]f all the great transformations of warfare that took place in the period from 1400-1880, nothing surpassed the creation of centrally organized state navies in terms of overall impact”<sup>71</sup>. The centrality of the Royal Navy demonstrates how ocean-going force projection buttressed Britain’s empire. The juggernaut of war did not of itself create imperial Britain (though late adaptation of European modes of warfare did transform governments and societies in the “extra-European world”)<sup>72</sup>. The eighteenth-century military revolution “saw its greatest development in the growth of the British Navy”<sup>73</sup>. Aboard ship as well as upon land, British gun-drills compensated for the persistent inaccuracy of smoothbore firearms<sup>74</sup>. Ratcheting up drill increased volume, rate of fire, and accuracy. Discipline magnified destructive power, maximizing technological and tactical developments (in the latter case, line ahead formations). Military potency, via political channels, synchronized with the dynamism of the commercial revolution.

Profits ruled, fortified by seapower. Whig merchants wielded political in-

69 Christopher Storrs, ed, *The Fiscal-Military State in Eighteenth-Century Europe. Essays in honour of P.G.M. Dickson*, Farnham, Ashgate, 2009; John Brewer, *The Sinews of Power: War, Money and the English State 1688-1783*, London, Routledge, 2002, p. xx.

70 N.A.M. Rodger, “The military revolution at sea”, *Essays in Naval History, from Medieval to Modern*, edited by N.A.M. Rodger, Farnham, Ashgate Variorum, 2009, pp. 59-76; N.A.M. Rodger, “From the ‘military revolution’ to the ‘fiscal-naval state’”, *Journal for Maritime Research*, Vol. 13, No. 2, June 2011, pp. 119-128.

71 A telling conclusion in a book focused on military technology! Paul Lockhart, *Firepower. How Weapons Shaped Warfare*, New York, Basic Books, 2021, p. 63.

72 David Ralston, *Importing the European Army. The Introduction of European Military Techniques and Institutions into the Extra-European World, 1600-1914*, Chicago, University of Chicago Press, 1990, pp. 173-180.

73 M.A.J. Palmer, “The ‘Military Revolution’ Afloat: The Era of the Anglo-Dutch Wars and the Transition to Modern Warfare at Sea”, *War in History*, Vol. 4, No. 2, 1997, pp. 123-149; Michael Duffy, “The Foundations of British Naval Power”, *The Military Revolution and the State 1500-1800*, edited by Michael Duffy, Exeter, University of Exeter, 1980, p. 49.

74 Black, *European Warfare 1660-1815*, p. 11.

fluence, and “managed” war. However, “organisational cohesion” and technological advancements only partially buttressed the East India Company. While economics sustain war, war doesn’t necessarily sustain economics. Britain’s state-sponsored conflicts of the 1700s could disrupt symbiotic societal relationships when Britain’s overburdened economy forced sacrifice and hardship upon its population. Wars fought for imperial exertions could be foolhardy capital investments<sup>75</sup>. “With the onset of the Seven Years’ War in 1756, the Company’s expenditures rapidly outpaced its commercial profits. It was estimated that the EIC lost up to £2.5 million in war-related expenditures and crises between 1753 and 1760”<sup>76</sup>. Through 1772, the EIC solicited relief from the Bank of England and from parliament. By 1773, the state had intervened and assumed custodianship. An imperial military commitment had been made by the public sector due to corporate failure<sup>77</sup>.

Did builders of the British Empire discern contemporary military revolutions? Campbell Dalrymple, Lieutenant General to the King’s own regiment of dragoons, coined the term “military revolution” in 1761. Opining upon the vicissitudes of weaponry in *A Military Essay*, he envisaged the next age might “produce another military revolution, and send us back to the arms in use before the invention of gunpowder”<sup>78</sup>. Did Dalrymple believe a resurgence of edge weapons might undo gunpowder revolutions? Dalrymple saw the interplay between bayonet and firepower as part of a continuum of cyclical “military revolutions” (in the original astronomical sense of the word), *not* as a singularity. In 1761, “revolution” denoted recurrent cosmological phenomena; it garnered none of the context of irreversible change that would come in the 1780s. No permanent shift in military science was perceived or identified. Dalrymple, although frequently directing musket fire, did not conclude that gunpowder technology was a terminus. His military revolution commentary channeled British conceptions of antiquity.

The authority of the ancients offered a solid foundation upon which Britain would build. Enlightenment-era officers doffed their hats to their forebears, even while contrasting British imperialism with the empire-building of classical

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75 Black, *The Continental Commitment: Britain, Hanover and interventionism*, London, Routledge, 2005, pp. 22-23.

76 Vaughn, *The Politics of Empire*, pp. 94-95.

77 William Dalrymple, *The Anarchy. The East India Company, Corporate Violence, and the Pillage of an Empire*, New York, Bloomsbury, 2019, pp. xxx-xxxi.

78 [https://www.google.com/books/edition/A\\_Military\\_Essay/xyNEAAAAYAAJ?hl=en&gbpv=1&dq=Campbell+Dalrymple&printsec=frontcover](https://www.google.com/books/edition/A_Military_Essay/xyNEAAAAYAAJ?hl=en&gbpv=1&dq=Campbell+Dalrymple&printsec=frontcover), p. 57.





Fig. 9. A manifestation of corporate strength: civil-military architecture of the East India Company, Fort St. George, 1736, Coromandel coast, Madras. Gerard van der Gucht engraving, by permission of the Yale Center for British Art. Thanks to Mark Danley for sharing his knowledge of this period.

antiquity<sup>79</sup>. Britain's strategic culture was defensive whilst Rome's was predatory and expansionist, an unusual perspective for an officer commanding a colonial outpost (though Dalrymple likely saw his role as protector of commerce). He served the British fiscal-military state in Guadeloupe<sup>80</sup>. Dalrymple applied to weaponology the same cyclical formula that Major-General H.H.E. Lloyd

79 Beatrice Heuser, "Denial of Change: The Military Revolution as seen by contemporaries", *International Bibliography of Military History*, Vol. 32, No. 1, 2012, pp. 3-27, p. 19; Donald A. Neill, "Ancestral Voices: The Influence of the Ancients on the Military Thought of the Seventeenth and Eighteenth Centuries", *The Journal of Military History*, Vol. 62, No. 3, 1988, pp. 487-520.

80 Christian Schnakenbourg, "La Guadeloupe pendant la première administration britannique : le mémoire du gouverneur Dalrymple du 16 février 1762", *Bulletin de la Société d'Histoire de la Guadeloupe*, No. 174, May-August, 2016, pp. 51-72.



applied to tactical disposition (below). The Welsh soldier-commentator Lloyd (born circa 1718-1720, died 1783) shared Dalrymple's sentiments<sup>81</sup>. A non-aristocrat with a chip on his shoulder, a utilitarian thinker, a product of "artillery and engineering schools" and above all as a practitioner of various national schools of war, Lloyd would be expected to reject the relevance of antiquity. Such was not the case<sup>82</sup>. Steeped in experiences in the Seven Years' War, he held Dalrymple's neo-classicist reverence for ancient Greek military practices, insisting (as did Chevalier Jean-Charles de Folard) that the phalanx was relevant in the gunpowder age<sup>83</sup>.

Ancient Greek erudition might improve eighteenth-century warfare, particularly the operational art. From his British perspective, Lloyd "judged ancient histories to be more valuable than those of modern writers . . . . He venerated ancient writers, but he was not fettered to their outlook"<sup>84</sup>. Lloyd's model was Thucydides, who analyzed while narrating meticulously, proffering pragmatic insights. Lloyd weighed Frederick the Great's tactical dispositions and strategies against classical accounts (even if firearms were absent in the latter's case studies). Similar principles applied in Dalrymple's critique of linear tactical formations<sup>85</sup>. These British soldier-scholars were "a conduit between the ancient historical heritage and modern analytical writing" and their "philosophy of war" inspired the post-1789 "Revolution of Military Thought"<sup>86</sup>.

During the Military Enlightenment, "[s]ome embraced the technological innovations of the 'military revolution.' Others [such as Dalrymple and Lloyd] sought victory by rekindling the warrior spirit in the human heart. Today, when

81 In general (and in impressive depth), see Patrick J. Speelman, ed., *War, Society, and the Enlightenment: The Works of General Lloyd*, Leiden, Brill, 2005. Also, [https://www.penseemiliterre.fr/en/henry-humphrey-evans-lloyd-a-tactician-philosopher\\_400\\_1013077.html](https://www.penseemiliterre.fr/en/henry-humphrey-evans-lloyd-a-tactician-philosopher_400_1013077.html); <https://archive.org/details/historyoflatewar01lloy/page/n5/mode/2up>.

82 Patrick J. Speelman, *Henry Lloyd and the Military Enlightenment*, Westport, Connecticut, Greenwood Press, 2002, p. 14, and p. 68; see also Neill, "Ancestral Voices," pp. 487-520; For an earlier, parallel case see Mark Charles Fissel, "Appendix: On the cover illustration", in *The Military Revolution and Revolutions in Military Affairs*, edited by Mark Charles Fissel, Berlin, De Gruyter, 2022, pp. 447-456.

83 Speelman, *Henry Lloyd and the Military Enlightenment*, pp. 45-46; Armstrong Starkey, *War in the Age of Enlightenment, 1700-1789*, Westport, Connecticut, Praeger, 2003, p. 37.

84 Speelman, *Henry Lloyd and the Military Enlightenment*, p. 46.

85 Speelman, *Henry Lloyd and the Military Enlightenment*, pp. 45-50; Starkey, *War in the Age of Enlightenment*, pp. 36-37. Insights on these issues are also owed to Jeremy Black. Any errors of fact or interpretation, however, fall upon the present writer.

86 Speelman, *Henry Lloyd and the Military Enlightenment*, pp. 46, 114.



Fig. 10. Invoking the image of the timeless warrior. Classical (idealized Macedonian?) infantryman with plumed helmet, spear, and shield, engraved on a gorget circa 1650 to 1660. Breastplate and fauld persisted into the gunpowder age. Pikes approximated spears. Spanish infantry (short-sword and buckler men) of the 1500s utilized shields to deflect pike heads while wielding an edge weapon somewhat resembling the *gladius*. Dalrymple and Lloyd identified weaponry's temporal resonances. Private collection, author's photograph.

one reads of the skepticism expressed by some veteran soldiers about a so-called revolution in military affairs – which seemed to be about increased reliance on high technology in warfare – the tension within the eighteenth-century Military Enlightenment does not appear so arcane<sup>87</sup>. Campbell Dalrymple also focused on weaponry, resonating with the technological determinism of the twentieth-century historiography of military revolutions. The eighteenth-century genesis of the military revolution concept was simultaneously cyclical, universal, and yet progressive<sup>88</sup>.

In the 1780s, voices across the Channel (in English translation) opined that seismic military revolutions had occurred in the last half of the 1700s. François Nockern de Schorn's *Idées raisonnées sur un système général et suivi de toutes les connaissances militaires et sur une méthode lumineuse pour étudier la science de la guerre avec ordre et discernement* concluded "that all these successive wars have occasioned advantageous revolutions in several branches of the art"<sup>89</sup>. Laissac de Laissac's *L'Esprit de militaire* (also published in English, in 1788) did, however, recognize that gunpowder had fomented a "revolution" in the art of war. Laissac took a classical perspective, asking rhetorically, "[s]uppose that the Greeks or the Romans had discovered powder; would that invention in their hands produced the same revolution in the military art that we have seen in our times?"<sup>90</sup> Laissac's book first appeared in 1783, three years after the publication of Nockern de Schorn's *Idées raisonnées*. The difference between these continental assertions of a revolution in the military art in the 1780s and Dalrymple's observation of 1761 is that the latter's revolution was cyclical. The application of the term "revolution" to the warfare of the 1780s clearly was regarded as progressive and permanent. (Had either Laissac de Laissac or François Nockern de Schorn read Dalrymple's 1761 tome?). One perceives developing in the 1700s "a revolutionary element that one must consider when defining the military culture"<sup>91</sup>.

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87 Starkey, *War in the Age of Enlightenment*, p. 211.

88 The present writer's interpretation of Neill, "Ancestral Voices", pp. 487-520 in relation to Campbell Dalrymple.

89 Published by Nuremberg et Altdorf, chez George Pierre Monath, 1780; Starkey, *War in the Age of Enlightenment*, pp. 35, 64 note 13.

90 Quoted in Starkey, *War in the Age of Enlightenment*, pp. 35, 64 note 12; L. de Laissac, *L'Esprit de militaire*, new edition, The Hague, 1788, p. 132, cited by Starkey, *War in the Age of Enlightenment*, pp. 35, 64 note 12. For social context, see Jennifer Ngaire Heuer, "Celibacy, Courage, and Hungry Wives: Debating Military Marriage and Citizenship in Pre-Revolutionary France", *European History Quarterly*, Vol. 46, No. 4, 2016, pp. 654-656.

91 Starkey, *War in the Age of Enlightenment*, pp. 35-36 and abstract.





Fig. 11. Necessity as the mother of hybridity: Likely a militia musket of post-war manufacture when American gunsmiths had seen more examples of the most up-to-date French muskets – models 1763/1768. “Recycled” British “Long Pattern” musket barrel (length 46 inches, .75 inch caliber). The pins fastening the barrel to the original stock abandoned, secured in the French style by bands, thus necessitating the barrel to have been rotated 180 degrees. Crude American-made gunlock, also French-inspired. An intriguing question: from whence the old British barrel? Professor Kevin Sweeney advised on this specimen; any errors or misinterpretations are the responsibility of the author. Private collection. Author’s photograph.

In the aftermath of the French Revolution of 1789, “revolution” acquired a political connotation that eclipsed the astronomical intendment of the word. Gaining a foothold in the British public sphere, the 20 June 1903, edition of the weekly illustrated journal *The King and his Navy and Army* ran the caption “MILITARY REVOLUTIONS” in a column decrying the assassinations of King Alexander and Queen Draga of Serbia, by army officers. In this instance, regicide committed by the armed forces was described as a military revolution. The plural implied that depositions of dynastic rulers by the military were political phenomena that could be labelled as “military revolutions”. This further cemented the transitional terminology from cyclical change to permanent and irreversible metamorpho-

sis. “Military” referred to personnel, not weapons and tactics, of course.

Political application of “military revolution” is not inapropos. From 1645, a product of the military revolution (the New Model Army) overturned a monarch. In 1688, a British army versed in the military revolution accomplished the Glorious Revolution, again toppling a king. Ranging back to the Treaty of Berwick we perceive how “British” Protestant arms utilized the art of war taught by the military revolution to further political goals that could be interpreted as ambivalently anti-monarchical (resistance to Mary Queen of Scots and to Charles I). In 1955 to 1956, this politically revolutionary context of military revolutions was in turn eclipsed by the Robertsonian formula.

From 1450 to 1800, British military revolutions shared increasingly a common denominator: hybridity. Facing indigenous populations in Ireland, North America, and India prompted new tactics and assimilation of “foreign” weapons systems. Efficacy of weaponry (and military endeavor in general) depends upon the nature of the opponent and what one must adapt to and learn from adversaries, e.g., British light cavalry in India, which exemplify the practice.

Hybridity manifests itself not so much as “revolution” but as adaptive transition. The foremost instance of hybridity, however, was not technological or even military. It was the “public-private partnership”<sup>92</sup>. The East India Company, as a semi-autonomous extension of British strategic culture, created systems of



<sup>92</sup> Dalrymple, *The Anarchy*, p. xxvii.





Fig. 12. Bengal Army Troops, 1785, depicted by an East India Company artist. NAM Accession Number NAM. 1980-03-22-1 National Army Museum, <https://collection.nam.ac.uk/detail.php?acc=1980-03-22-1>. Reproduced courtesy of the Council of the National Army Museum, London with the assistance of Penny Hutchins (Head of Archives, Library and Information).



hybrid warfare by synthesizing western European military revolutions and indigenous arts of war<sup>93</sup>. Recruitment of indigenous troops facilitated the latter process: “[T]he bulk of forces raised by the English East India Company were Indian and . . . drawn from India’s traditional military labor markets”<sup>94</sup> – the Company’s success derived from its fusion of manpower management, military technology, and logistics. A “corporation of seamless continuity”, its fiscal and organizational strength, not a particular technological advantage, brought victories<sup>95</sup>.

In tracking the punctuated equilibrium of British military revolutions, we acknowledge that technological developments, primarily relating to artillery, culminated in a high-water mark for European military revolutions, specifically 1490 to 1525. Firearms and attendant tactical innovations coupled with the transformation of military architecture complemented advances in ordnance, extending to seagoing warfare<sup>96</sup>. However, the full impact of technical innovations was enabled and intensified by a “Tudor revolution in government” and the later confessional RMA created by the “disciplinary revolution.” British military revolutions occurred when inert technologies became exploitable due to bureaucratic innovation and organizational vitality. Military transformation benefited from technology but was not driven by it. Societal change during the wars of religion, encompassing the 1560s through the 1640s, fostered strategic cultures that sustained punctuated military revolutions. By 1650, unprecedented institutional robustness coupled with taxation created a professional army and a formidable Royal Navy undergirded by parliamentary statute. Hybridity, commercial efficiency (partly born of the disciplinary revolution), and force projection (borne by the aquatic achievements of military revolutions) fed the

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93 Kaushik Roy, “The hybrid military establishment of the East India Company in South Asia: 1750–1849”, *Journal of Global History*, Vol. 6, No. 2, 2011, 195-218; Kaushik Roy, *War, Culture and Society in Early Modern South Asia, 1740-1849*, London, Routledge, 2011; Kaushik Roy, “Horses, guns and governments: A comparative study of the military transition in the Manchu, Mughal, Ottoman and Safavid empires, circa 1400 to circa 1750”, *International Area Studies Review*, Vol. 15, No. 2, 2012, 99-121.

94 Douglas Peers, “Revolution, Evolution, or Devolution. The Military and the Making of Colonial India”, *Empires and Indigenes. Intercultural Alliance, Imperial Expansion, and Warfare in the Early Modern World*, edited by Wayne E. Lee, New York, New York University Press, 2011, p. 98; Wayne E. Lee, “The Military Revolution of Native North America. Firearms, Forts, and Politics”, *Empires and Indigenes*, pp. 49-79; Jeremy Black, *Warfare in the Eighteenth Century*, London, Cassell, 1999, pp. 80-81.

95 Black, *Warfare in the Eighteenth Century*, p. 208.

96 David A. Neill calls them “troughs” and “crests”.

synthetic progress of punctuated equilibria. After 1689 especially, political stability empowered Britain's (increasingly hybrid) military revolutions to become imperial in scope and nature, in collaboration with the private sector. Military transformation was inextricably more institutional, integrated with burgeoning capitalism and imperialism. "Infrastructure of governance" expanded and fortified itself as the East India Company's wealth ensnared MPs and civil servants. The commercial efficiency of the disciplinary revolution likewise progressed. Thirty-five "permanent" employees staffed an institution that in the early 1700s governed far-away geographic expanses, and by 1766 encompassed sufficient territory to satisfy a Roman emperor. The EIC's 200,000-man armed force was double the size of Britain's army<sup>97</sup>. In Bengal (and then by 1803 an even wider sphere in India) the EIC as an institution, rather than superior weaponry, produced results that historians judge to be a "successful" military revolution, or in this case a military synthesis that achieved an RMA.

Upon the basis of results, the eighteenth century laid the foundation for the greatest of British military revolutions: unprecedented world empire resulting from the punctuated equilibrium of "British" military revolutions dating back to 1450 (and beyond). The hybridity that characterized military transformation in Britain most often originated externally, thus exogenous and therefore a military revolution; however, internal institutional development that wrought great changes was endogenous, hence an RMA. The foothold established by the EIC was filled by Britain's government. In turn, the inherited economic infrastructure, coupled with the socio-political understanding garnered through corporate engagement with indigenous society, enabled the Anglo-Maratha campaigns establishing the hegemony of the Raj: "[T]he real contest for India was the struggle to control the South Asian military economy, rather than a single decisive military battle. Victory depended more on economics and intelligence than on superiority in discipline, drill and technology"<sup>98</sup>. By 1803 to 1815, Britain's "was a global army that made a world empire"<sup>99</sup>.

97 Dalrymple, *The Anarchy*, pp. xxvi-xxvii, and xxix, in particular. See, however, <https://thecritic.co.uk/the-anarchy-lacks-context/>.

98 Randolph Cooper, *The Anglo-Maratha Campaigns and the Contest for India*, Cambridge, Cambridge University Press, 2003, pp. i, 6-11, 57-61, 279-283, 310-12, 344-346.

99 Jeremy Black, *How the army made Britain a global power, 1688-1815*, Oxford, Casemate, 2021, p. 205.

(Inscribed to the British LAND and SEA OFFICERS.)

T H E  
**BRITISH MARS.**

C O N T A I N I N G  
Several S C H E M E S and I N V E N T I O N S,  
To be Practised by LAND or SEA  
Against the E N E M I E S of GREAT-BRITAIN.  
Shewing more plainly,  
The great Advantage BRITAIN has over other  
Nations, by being M A S T E R S at S E A.

I n T W O P A R T S.

Part I. contains,

The Construction of Boats both to  
flow in less room in Ships, and go  
swiftly, to discover an Enemy's  
Coast, and to land and embark  
Troops with greater Safety; also  
to construct Vessels to lye nearer  
the Shore, to better protect the  
Troops in landing or embarking;  
also rolling Defences to be used as  
floating Batteries, or as Floats for  
landing Cannon, &c. and for  
making Defences and Batteries on  
Shore more expeditiously, and for  
filling up Ditches, &c.

Also contains a Method to fit old  
Ships of War and small floating

Batteries, to batter land Defences  
with greater Force; and another  
Method to fit old Ships of War  
(that cannot be sunk by Shot) to  
lye before Batteries and receive the  
Shot, while other Ships pass by;  
with Remarks and Observations,

Part II. contains

Methods to fortify dwelling Houses,  
that even Women and Children  
may defend themselves from In-  
dians with small Arms, designed  
for our Settlements in America,  
and other Places.

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and making Batteries.

T O W H I C H I S A D D E D, A N

A P P E N D I X,

Containing a Scheme for Manning the BRITISH NAVY,  
with less Grievance to the Subject;  
And a Scheme to employ SEAMEN: Of a COPPER MINE  
near Hudson's Bay: And of discovering the NORTH-WEST  
PASSAGE, or determine there is no such Passage; with  
Cautions and Directions.

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# Early Modern France and the Military Revolution

By BRIAN SANDBERG

**ABSTRACT:** France initially remained on the fringes of the early formulations of the Military Revolution, but historians soon inserted France more directly into the Military Revolution Debate. Many works on war, culture, and society in early modern France sidestep the Military Revolution Debate entirely, avoiding an engagement with specific debates on military recruitment, army formation, army size, unit organization, military discipline, military logistics, war finance, or state development associated with the Military Revolution. Other historiographical debates on absolutism, state development, bureaucracy, and empire have often driven research on warfare in early modern France. Yet, the kingdom of France was at war throughout the entire period associated with the Military Revolution. This article will examine recent research on war, culture, and society in early modern France, seeking to bring the Military Revolution Debate into dialogue with related historical debates on violence, noble culture, and state development.

**KEYWORDS:** MILITARY REVOLUTION, EARLY MODERN FRANCE, ITALIAN WARS, FRENCH WARS OF RELIGION, THIRTY YEARS' WAR, FRANCO-DUTCH WAR, NINE YEARS' WAR, WAR OF SPANISH SUCCESSION.

## *Introduction: The Military Revolution and Early Modern France*

Michael Roberts originally defined a Military Revolution encompassing four interconnected military changes occurring in Europe between 1560 and 1660.<sup>1</sup> However, Geoffrey Parker's critiques and modifications of the concept arguably created a more powerful model of revolutionary military change in Europe and the world, which attracted considerable attention.<sup>2</sup> Parker's *The*

1 Michael Roberts, "The Military Revolution, 1560-1660," in Michael Roberts, *Essays in Swedish History*, Minneapolis, MN: University of Minnesota Press, 1967, 195-225; Michael Roberts, *The Military Revolution, 1560-1660*, Belfast, 1956.

2 Geoffrey Parker, "The 'Military Revolution, 1560-1660' — A Myth?" *Journal of Modern History* 48 (1976): 195-214; Geoffrey Parker, *The Army of Flanders and the Spanish Road, 1567-1659*, Cambridge: Cambridge University Press, 1972, 3-21.

*Military Revolution* offered a broader explanatory framework, associating early modern military changes with the Rise of the West thesis.<sup>3</sup> Parker's *Military Revolution* was widely read, but its expansive thesis provoked criticisms and spurred a sustained debate within the field of military history.<sup>4</sup> In a response essay and then a second edition of his book, Parker defended his model of the Military Revolution by addressing conceptual, chronological, geographical, and technological criticisms.<sup>5</sup> The scholarly debate arguably fragmented into a series of relatively disconnected debates that have strayed away from the conceptual questions posed by Roberts and Parker. Nonetheless, the Military Revolution Debate has fueled successive waves of new scholarship on war and society in the early modern period for over thirty years now.

Roberts's understandings of revolutionary change seem to have been modeled on earlier historiographical concepts of the Industrial Revolution<sup>6</sup> and the Scientific Revolution.<sup>7</sup> Parker's elaboration of revolutionary military developments coalesced in tandem with emerging arguments about the Gunpowder Revolution,<sup>8</sup> and the Printing Revolution.<sup>9</sup> The temporal and spatial dimen-

- 3 Geoffrey Parker, *The Military Revolution: Military Innovation and the Rise of the West, 1500-1800*, Cambridge: Cambridge University Press, 1988; William H. McNeill, *The Rise of the West: A History of the Human Community*, Chicago, IL: University of Chicago Press, 1963.
- 4 Clifford J. Rogers, ed., *The Military Revolution Debate: Readings on the Military Transformation of Early Modern Europe*, Boulder, CO: Westview Press, 1995; Jeremy Black, *A Military Revolution? Military Change and European Society, 1550-1800*, Atlantic Highlands, NJ: Humanities Press International, 1991.
- 5 Geoffrey Parker, *The Military Revolution: Military Innovation and the Rise of the West, 1500-1800*, 2<sup>nd</sup> ed., Cambridge: Cambridge University Press, 1996; Geoffrey Parker, "In Defense of The Military Revolution," in *The Military Revolution Debate*, 337-365.
- 6 John U. Nef, "The Industrial Revolution Reconsidered," *Journal of Economic History* 3:1 (May 1943): 1-31.
- 7 Thomas S. Kuhn, *The Structure of Scientific Revolutions*, Chicago, IL: University of Chicago Press, 1962; Herbert Butterfield, *The Origins of Modern Science, 1300-1800*, London: Bell, 1950.
- 8 On the Gunpowder Revolution (also termed the Invention of Gunpowder), see: William McNeill, *The Pursuit of Power: Technology, Armed Force, and Society since A.D. 1000*, Chicago, IL: University of Chicago Press, 1982; Carlo M. Cipolla, *Guns, Sails, and Empires: Technological Innovation and the Early Phases of European Expansion, 1400-1700*, New York, NY: Minerva Press, 1965; J. R. Hale, "Gunpowder and the Renaissance: An Essay in the History of Ideas," in *From the Renaissance to the Counter-Reformation: Essays in Honor of Garrett Mattingly*, ed. Charles H. Carter, New York, NY: Random House, 1965.
- 9 Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early-Modern Europe*, 2 vols., Cambridge: Cambridge University Press, 1979.



sions of revolutionary changes could be expansive, involving differing paces of change as successive developments diffused from centers to peripheries. The two architects of the Military Revolution were both interested in technological innovations and organizational developments occurring in specific states and their militaries, before gradually diffusing outward through technological transfers and administrative adaptations. Roberts saw Dutch and Swedish military innovations in the first half of the seventeenth century as revolutionary, while Parker saw Italian and Spanish military developments in the sixteenth century as crucial. They were both interested in the rates of diffusion of military technologies and techniques over geographic space.

The Military Revolution Debate has also fueled interdisciplinary interest in early modern European warfare. Parker's broader conceptual model framed military changes against the backdrop of the Little Ice Age and in relationship to an earlier historiographical debate on the Crisis of the Seventeenth Century.<sup>10</sup> The Military Revolution fit into ongoing debates in state development theory about the nature of early modern states and the emergence of nation-states. Historical sociologist Charles Tilly memorably claimed that "war made the state, and the state made war."<sup>11</sup> He later articulated a state development model based on the idea that "war wove the European network of national states, and preparation for war created the internal structures of the states within it."<sup>12</sup> Political scientist Brian M. Downing argued that the Military Revolution challenged medieval constitutionalism and created military-bureaucratic states.<sup>13</sup> Jack A. Goldstone fashioned a theory of "state breakdown" based on historical comparisons of England, France, and Spain during the seventeenth century.<sup>14</sup> Modern military historians, social scientists, and military professionals became enamored with *Revolutions in Military Affairs* (RMA), loosely applying the Military Revolution's model of revolutionary military change to other periods in modern and

10 Geoffrey Parker, ed. *The Thirty Years' War*, London: Routledge, 1984; Geoffrey Parker and Lesley M. Smith, eds., *The General Crisis of the Seventeenth Century*, London: Routledge & Kegan Paul, 1978.

11 Charles Tilly, "Reflections on the History of European State Making," in *The Formation of National States in Western Europe*, ed. Charles Tilly, Princeton, NJ: Princeton University Press, 1975, 42.

12 Charles Tilly, *Coercion, Capital, and European States, AD 990-1992*, rev. ed. Oxford: Blackwell, 1992, 76.

13 Brian M. Downing, *The Military Revolution and Political Change: Origins of Democracy and Autocracy in Early Modern Europe*, Princeton, NJ: Princeton University Press, 1992.

14 Jack A. Goldstone, *Revolution and Rebellion in the Early Modern World*, Berkeley, CA: University of California Press, 1991, 1-12.

contemporary history.<sup>15</sup>

France initially remained on the fringes of the early formulations of the Military Revolution, but historians soon inserted France more directly into the Military Revolution Debate. Parker considered French army size in relationship to the problems of supplying war, drawing especially on reconstructions of the patterns of army growth in seventeenth-century France by André Corvisier and John A. Lynn.<sup>16</sup> David A. Parrott challenged the concept of the Military Revolution by focusing on the logistical difficulties that French armies experienced during the Thirty Years' War.<sup>17</sup> Lynn increasingly emphasized the massive expansion in the size of the permanent French military organization under Louis XIV during the wars of the 1680s-1710s.<sup>18</sup> In his broader study of the early modern French army, Lynn argues that "without entirely rejecting Roberts's or Parker's visions of change, this volume accepts an alternative theory of the evolution of armies."<sup>19</sup> Jeremy Black asserted that the period from 1660-1792 saw much more dramatic changes than the previous century, due to the rise of absolutist states such as Louis XIV's France.<sup>20</sup> Francophone historians seem to have been less drawn to the Military Revolution Debate, partly because of the relative lack of academic programs in war and society studies in France. French language publications related to the Military Revolution Debate have often been generated by professional military institutions such as the École de guerre, the École spéciale militaire de Saint-Cyr, and the Service historique de la Défense. Jean Bérenger introduced the Military Revolution to a Francophone audience in a collective volume on *La Révolution militaire en Europe*, which included a

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15 Macgregor Knox and Williamson Murray, *The Dynamics of Military Revolution, 1300-2050*, Cambridge: Cambridge University Press, 2001.

16 Parker, *The Military Revolution*, 45-61; John A. Lynn, "The growth of the French Army during the Seventeenth Century," *Armed Forces and Society* 6 (1980): 568-585; André Corvisier, *L'Armée française de la fin du XVIIe au ministère de Choiseul. Le soldat*, 2 vols., Paris Presses Universitaires de France, 1964.

17 David A. Parrott, "Strategy and Tactics in the Thirty Years' War: The 'Military Revolution'" in *The Military Revolution Debate*, 227-252; David A. Parrott, "The Administration of the French Army during the Ministry of Cardinal Richelieu," Ph.D. dissertation, Wolfson College, Oxford University, 1985.

18 John A. Lynn, "Recalculating French Army Growth during the Grand Siècle, 1610-1715," in *The Military Revolution Debate*, 117-147.

19 John A. Lynn, *Giant of the Grand Siècle: The French Army, 1610-1715*, Cambridge: Cambridge University Press, 1997, 4-9.

20 Jeremy Black, *European Warfare, 1660-1815*, New Haven, CT: Yale University Press, 1994, 1-37; Black, *A Military Revolution?*

sharp critique of the entire concept by Jean Chagniot.<sup>21</sup>

Many works on war, culture, and society in early modern France sidestep the Military Revolution Debate entirely, avoiding an engagement with specific debates on military recruitment, army formation, army size, unit organization, military discipline, military logistics, war finance, and state development associated with the Military Revolution. Other historiographical debates on absolutism, state development, bureaucracy, and empire have often driven research on warfare in early modern France. Social and cultural histories of early modern France now incorporate discussions of the royal state, military organizations, and the impact of war on society.<sup>22</sup> If French perspectives on the Military Revolution are not entirely clear, there is no doubt that France was fully engaged in the dynamics of early modern warfare.

The kingdom of France was at war throughout the entire period associated with the Military Revolution. France waged many major foreign wars and civil conflicts during the sixteenth and seventeenth centuries, including the Italian Wars (1494-1559), the French Wars of Religion (1559-1629), the Thirty Years' War (1618-1648), the Fronde Civil War (1649-1653), the Franco-Dutch War (1672-1678), the Nine Years' War (1688-1697), and the War of Spanish Succession (1701-1714). In addition to these major conflicts, French military forces intervened in other foreign wars, while French naval forces engaged in maritime expeditions in the Mediterranean and Atlantic worlds. French trading posts and colonies in North Africa, North America, and the Caribbean engaged in colonial warfare. Regions within the kingdom frequently experienced peasant revolts, urban revolts, religious conflicts, and civil conflicts.

This article will examine recent research on war, culture, and society in early modern France, seeking to bring the Military Revolution Debate into dialogue with related historical debates on violence, noble culture, and state development. Studies of French armed forces, martial practices, and state institutions in the sixteenth and seventeenth centuries have raised new questions about the dynamics of warfare. Historians exploring early modern French war and society have offered diverse interpretations of France's relationship to the Military Revolution, sometimes responding directly to the model's authors, but often developing alternative ways of considering French experiences of war.

21 Jean Bérenger, ed., *La Révolution militaire en Europe (XVe - XVIIIe siècles)*. Actes du colloque organisé le 4 avril 1997 à Saint-Cyr Coëtquidan, Paris: Economica, 1998.

22 William Beik, *A Social and Cultural History of Early Modern France*, Cambridge: Cambridge University Press, 2009.

### *French Ambitions and The Italian Wars*

King Charles VIII (r. 1483-1498) led a French army to invade Italy in 1494, pursuing his dynastic claims to the kingdom of Naples, but the attempted conquest provoked a series of conflicts that long outlived him.<sup>23</sup> Curiously, French participation in the Italian Wars (1494-1559), has not been a major subject in the Military Revolution Debate, despite Geoffrey Parker's depiction of Charles VIII's invasion as "the catalyst of major change" and his quotation of Francesco Guicciardini's famous description of Charles VIII's siege guns: "they were planted against the walls of a town with such speed, the space between the shots was so little, and the balls flew so quick and were impelled with such force, that as much execution was done in a few hours as formerly, in Italy, in the like number of days."<sup>24</sup> Parker argued that new bastioned (*trace italienne*) fortifications soon improved defenses, shifting the focus away from French involvement in the Italian Wars.

Historians of gunpowder technologies and military developments in Renaissance France often consider the development of siege artillery as more significant than the *trace italienne* fortification designs. Bert S. Hall emphasizes the evolutionary nature of gunpowder and artillery development throughout the fifteenth century, arguing that French siege guns employed in the final stages of the Hundred Years' War (1337-1453) resembled those used in Charles VIII's invasion of Italy.<sup>25</sup> David Potter describes an "artillery revolution" as transforming siege warfare, drawing heavily on the research of Kelly DeVries and Clifford J. Rogers.<sup>26</sup> Potter asserts that "the development of artillery warfare in the second half of the 15<sup>th</sup> century placed France in the forefront of a revolution in a domain that had for centuries given the advantage to the defensive."<sup>27</sup> If the technical development of bombards and cannons in this period was revolution-

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23 Christine Shaw and Michael Mallett, *The Italian Wars, 1494-1559: War, State and Society in Early Modern Europe*, London: Routledge, 2019.

24 Francesco Guicciardini, cited in Parker, *The Military Revolution*, 9-10.

25 Bert S. Hall, *Weapons and Warfare in Renaissance Europe: Gunpowder, Technology, and Tactics*, Baltimore, MD: Johns Hopkins University Press, 1997, 158-164.

26 Bert S. Hall and Kelly R. DeVries, "Essay Review—The 'Military Revolution' Revisited," *Technology and Culture* 31 (1990): 500-507; Kelly DeVries, "Gunpowder Weaponry and the Rise of the Early Modern State," *War in History* 5:2 (1998): 127-145; Clifford J. Rogers, "The Military Revolutions of the Hundred Years War," in *The Military Revolution Debate*, 55-93.

27 David Potter, *Renaissance France at War: Armies, Culture and Society, c. 1480-1560*, Woodbridge: Boydell Press, 2008, 152.





Fig. 1. Jean Bourdichon, "Louis XII sortant de la ville d'Alexandrie pour aller reprendre Gênes," in *Le Voyage de Gênes*, 1507-1508, Bibliothèque nationale de France, Manuscrits français 5091, folio 5v.



ary, Potter sees siege artillery first as an offensive weapon, in alignment with the distinct notion of a Gunpowder Revolution. These represent very different findings from Geoffrey Parker's argument that the development of *trace italienne* fortifications revolutionized warfare in the Italian context.

French kings organized large field armies for successive expeditions to the Italian peninsula. Philippe Contamine assesses the composition of French field armies in major campaigns of the Italian Wars. During the reigns of Louis XII (r. 1498-1515) and François I (r. 1515-1547), a field army of 20,000-50,000 soldiers was normally composed of units of *gendarmes*, *chevaux-légers*, French infantry, Swiss infantry, some German Landsknechts, and an artillery train. French forces often had additional support from cavalry and infantry contingents of allied Italian city-states.<sup>28</sup> Foot soldiers included pikemen, halbardiers, archers, handgunners, and arquebusiers, although some companies and larger units specialized in a particular weapon system. The increasing use of firearms by arquebusiers was controversial during the sixteenth century and historians continue to debate their effectiveness. Most infantry forces fought in combined arms formations of pikes and arquebusiers, although evidence remains rather thin about their battlefield tactics. Niccolò Machiavelli's condemnations of mercenaries have probably attracted too much attention, since all of the field armies that fought in the Italian Wars were "'Noah's ark' armies" to use J.R. Hale's memorable terminology.<sup>29</sup> The diverse units of French armies could complement each other well in combat, as at the battle of Marignano (1515) and during successive campaigns for the Duchy of Milan. The French field armies of the Italian Wars can effectively be described as aggregate-contract armies that were recruited each spring, and then demobilized at the end of the campaign season.<sup>30</sup>

Despite the growing importance of infantry, French field armies continued to employ heavy cavalry *gendarmes* (heavily armored men-at-arms) throughout the Italian Wars. The *gendarmes* rode heavy warhorses and served in *compagnies d'ordonnance* that were organized and paid according to a royal ordinance of 1445. Philippe Contamine's research on the *compagnies d'ordonnance* has shown how the companies were composed of small groups of *lances* (a man-at-

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28 Philippe Contamine, "La première modernité. Des guerres d'Italie aux guerres de Religion: un nouvel art militaire," in *Histoire militaire de la France. 1. Des origines à 1715*, ed. Philippe Contamine, Paris: Presses Universitaires de France, 1992, 233-256.

29 This term was drawn from the diary of Marino Sanuto. J.R. Hale, *War and Society in Renaissance Europe, 1450-1620*, Baltimore, MD: Johns Hopkins University Press, 1985, 70.

30 John A. Lynn, "The Evolution of Army Style in the Modern West, 800-2000," *International History Review* 18 (August 1996): 505-545.

arms and several support personnel). The captains of the *compagnies d'ordonnance* received regular royal payments from the *ordinaire des guerres*, making them some of the first permanent standing forces maintained in wartime and peacetime.<sup>31</sup> Most of the *gendarmes* were provincial nobles, so the *compagnies d'ordonnance* became important sites for social bonding and gaining combat experience. Benjamin Deruelle argues that “the *compagnies d'ordonnance* served as an institution of formation, where the chivalric spirit was maintained through warrior practices.”<sup>32</sup> The *gendarmes* would normally charge *en haie* (in successive lines) with couched lances in battle, although they could also use other tactics. The *gendarmes* were normally supported on campaign and in battle by companies of *chevaux-légers* (light cavalry) and noble volunteers.<sup>33</sup> Cavalry remained vital in early modern French armies and played very different roles on campaign and in combat than the infantry. Proponents of the Military Revolution have often seen infantry becoming the dominant military branch during this period, but increasing evidence underlines the continued importance of cavalry. Perhaps the capture of François I while leading cavalry at the battle of Pavia (1525) overly dramatized the vulnerability of cavalry.

Nobles played crucial roles in French armies during the Italian Wars. Models of a Military Revolution often parallel Norbert Elias's theory of a Civilizing Process, which argues for a progressive civilizing of nobles courtiers and an accompanying decline of noble violence.<sup>34</sup> Some historians have applied Elias's theory to the French nobility, arguing that French nobles were increasingly domesticated in court culture.<sup>35</sup> Yet, Benjamin Deruelle finds that sixteenth-century French nobles continued to champion military service and promote chivalric virtues. Even as warrior nobles' chivalric ideals personal courage and prowess, they promoted *le métier des armes* (the profession of arms) as a genuine profession.<sup>36</sup> The *grands* (great nobles) commanded field armies and major armed contingents operating in the Italian Wars. Gaston de Foix (1489-1512), duc de

31 Philippe Contamine, *War in the Middle Ages*, trans. Michael Jones, London: Basil Blackwell, 1984, 126-132, 165-172.

32 Benjamin Deruelle, *De papier, de fer et de sang. Chevaliers et chevalerie à l'épreuve de la modernité (ca 1460 – ca 1620)*, Paris: Publications de la Sorbonne, 2015, 441.

33 Potter, *Renaissance France at War*, 67-94.

34 Norbert Elias, *The Civilizing Process: The History of Manners and State Formation and Civilization*, trans. Edmund Jephcott, Oxford: Blackwell, 1994.

35 Ellery Schalk, *From Valor to Pedigree: Ideas of Nobility in France in the Sixteenth and Seventeenth Centuries*, Princeton, NJ: Princeton University Press, 1986.

36 Deruelle, *De papier, de fer et de sang*, 107, 134.



Fig. 2. Anonymous, *Battle of Pavia*, c. 1525, painting, Birmingham Museum of Art, 1961.125.





Nemours, led French armies in northern Italy during the War of the League of Cambrai. Charles III de Bourbon (1490-1527), *connétable* (constable) de France, commanded French forces in the duchy of Milan, but later betrayed François I and entered Imperial service.<sup>37</sup>

New practices of siege warfare developed as batteries of cannons were deployed in conjunction with other specialized forces. Maurizio Arfaioli examines the prosecution of the 1527 siege of Naples by the French and Florentine troops of the League of Cognac against a Spanish and Neapolitan garrison.<sup>38</sup> The *connétable* de Bourbon was killed during the Imperial army's notorious sack of Rome (1527). Simon Pepper and Nicholas Adams's study of the fortifications of Siena and the epic defense of the city by French and Sienese forces in 1554-1555 stresses the close collaborations between military officers and architects during wartime.<sup>39</sup> Italian and French military architects and engineers seem to have continued to share knowledge and techniques for fortification-building and siege warfare throughout the sixteenth century.<sup>40</sup>

Emperor Charles V's inheritance of Spanish, Burgundian, and Austrian domains in the 1510s deepened the ongoing Habsburg-Valois rivalry and fueled French fears of encirclement during the Italian Wars. Henri II (r. 1547-1559) began major new fortification-building campaigns along its frontiers by the mid-sixteenth century, as the Habsburg-Valois rivalry produced fighting not only in Italy, but also in northeastern France, Flanders, Germany, and the Pyrenees. French military architects and engineers built increasingly sophisticated bastioned fortifications in Picardie, Champagne, Bourgogne, Provence, Languedoc, and Guyenne during the Habsburg-Valois Wars. David Buisseret has documented the work of the Italian and French military engineers who designed and built these fortifications.<sup>41</sup> David Potter emphasizes that "the heavy costs of artillery fortifications ultimately concentrated control in the hands of the crown."<sup>42</sup>

37 Shaw and Mallett, *The Italian Wars, 1494-1559*, 150-152, 168-170.

38 Maurizio Arfaioli, *The Black Bands of Giovanni: Infantry and Diplomacy during the Italian Wars (1526-1528)*, Pisa: Edizioni Plus – Pisa University Press, 2005.

39 Simon Pepper, *Firearms and Fortifications: Military Architecture and Siege Warfare in Sixteenth-Century Siena*, Chicago, IL: University of Chicago Press, 1986, 182-193.

40 Angela Marino, ed., *L'Architettura degli Ingegneri: Fortificazioni in Italia tra '500 e '600*, Rome: Gangemi Editore, 2005; Gabriel Audisio, ed. *Prendre une ville au XVI<sup>e</sup> siècle. Histoire, arts, lettres*, Aix-en-Provence: Publications de l'Université de Provence, 2004.

41 David Buisseret, *Ingénieurs et fortifications avant Vauban. L'organisation d'un service royal aux XVI<sup>e</sup>-XVII<sup>e</sup> siècles*, Paris: CTHS, 2000.

42 Potter, *Renaissance France at War*, 153.



Print culture influenced French understandings of conflicts during the Italian Wars and other contemporaneous conflicts. Paris became a major printing center with numerous printing presses, which published diverse works relating to war. Printed pamphlets related the latest battles and sieges, providing more accessible war news to literate urban populations. Geographic works and prints displayed city views with new bastioned fortifications. Hervé Drévilion and Benjamin Deruelle have articulated the concept of “military humanism” to describe sixteenth-century military thinking.<sup>43</sup> French nobles and military writers wrote treatises, military manuals, and memoirs that contributed to humanist debates on royal government, chivalric virtues, and military arts. Nobles can be seen as producers and consumers of humanist texts and active participants in the broader humanist movement that guided intellectual culture in sixteenth-century France.

The shifting alliances and chaotic fighting of the Italian Wars raised new concerns with the laws of war. The unstable politics in Italy produced temporary alliances, such as the League of Venice (1495-1498), the League of Cambrai (1508-1516) and the League of Cognac (1526-1530). French lawyers and jurists discussed the causes of war, diplomatic relations, and the nature of war in legal treatises and histories that were published on printing presses and widely disseminated. The well-developed medieval concept of *jus ad bellum* (law on initiating war) remained stable, based on the principle that “wars of self-defense could be waged by anyone, but only a prince who had no sovereign could declare a just war of aggression.”<sup>44</sup> However, new legal debates developed among humanists and jurists over the *jus in bello* (law on the practices of war). Religious wars, imperial wars of conquest, colonial conflicts, raiding warfare, and changing slave systems forced legal scholars and judges to rethink definitions of sovereignty, conquest, just conduct in war, and humanity—with dire consequences for people who could be considered heretics, infidels, cannibals, pirates, or slaves.<sup>45</sup>

43 Benjamin Deruelle, *De papier, de fer et de sang. Chevaliers et chevalerie à l'épreuve de la modernité (ca 1460 – ca 1620)*, Paris: Publications de la Sorbonne, 2015, 91; Hervé Drévilion, *L'individu et la guerre. Du chevalier Bayard au Soldat inconnu*, Paris: Belin, 2013.

44 Frederic J. Baumgartner, *Declaring War in Early Modern Europe*, Houndmills: Palgrave Macmillan, 2011, 27.

45 Baumgartner, *Declaring War in Early Modern Europe*, 55-63.

*Confessional Strife and Civil Conflict*

The Military Revolution Debate has largely ignored religious dimensions of warfare—which is surprising considering the confessional nature of the conflicts collectively known as the European Wars of Religion (1520s-1650s). Religious warfare broke out in France over deep confessional tensions between the Catholic majority population and a growing Reformed (Calvinist) minority, which included perhaps a third of the nobles. The royal family maintained its affiliation with the Catholic church, championing the king's role as *roi très chrétien* (Most Christian King). The death of Henri II in a jousting accident in 1559 and the ascension of his teenage son to the throne as François II (r. 1559-1560) deepened the political instability, producing religious riots, iconoclastic attacks, conspiracies, and massacres.<sup>46</sup> Young Charles IX (r. 1560-1574) assumed the throne following his older brother's death, while Queen Mother Catherine de' Medici attempted to calm the religious tensions. However apocalyptic fears and confessional agitation over clandestine Reformed worship prompted more sectarian violence, such as the Massacre of Vassy (1562).<sup>47</sup> Huguenot (Reformed French) nobles took up arms to protect their fellow Calvinists, leading to widespread religious warfare.<sup>48</sup> The French Wars of Religion (1559-1629) defined French peoples' experiences of war and shaped military developments in the kingdom for several generations.

James B. Wood is one of the few scholars of the French Wars of Religion to address the Military Revolution Debate directly. Wood focuses specifically on the royal armed forces, which remained predominantly Catholic. He argues that "the ultimate failure of the royal army to achieve a decisive victory over the Huguenots grew out of a deep and intractable set of military problems which from 1562 on manifested themselves as a repeating cycle of military insufficiency."<sup>49</sup> The focus here on military success or failure, evaluated in terms of military institutions and logistical systems, aligns well with one of the key approaches of Military Revolution arguments. Wood concludes that "the nature and ultimate

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46 Natalie Zemon Davis, "Rites of Violence," in *Society and Culture in Early Modern France*, Stanford, CA: Stanford University Press, 1975, 152-187.

47 Denis Crouzet, *Les Guerriers de Dieu. La violence au temps des troubles de religion, vers 1525 – vers 1610*, 2 vols., Paris: Champ Vallon, 1990.

48 Mack P. Holt, *The French Wars of Religion, 1562-1629*, 2<sup>nd</sup> ed., Cambridge: Cambridge University Press, 2005; Philip Benedict, *Rouen during the Wars of Religion*, Cambridge: Cambridge University Press, 1981.

49 James B. Wood, *The King's Army: Warfare, Soldiers, and Society during the Wars of Religion in France, 1562-1576*, Cambridge: Cambridge University Press, 1996, 4.



Fig. 3. Jean-Jacques Perrissin and Jacques Tortorel, “Saint Jean d’Angely assiégé par le Roy Charles 9. le 14. Octob. 1569. jusques au 2. Decembre. 1569.” in Jean-Jacques Perrissin and Jacques Tortorel, *Tableaux de l’histoire de France*, 1570, engraving, Musée Carnavalet, 2022.0.1255.

outcome of the civil wars in France, then, were determined not by their religious origins but by the combination of religious rebellion and an incomplete Military Revolution.” Religious motivations, rebellion, and foreign intervention all sustained Huguenot resistance and increased the costs of war, according to Wood. “Easy to begin, the civil wars were too difficult and expensive to fight to any clear conclusion. The result was military stalemate; it was also widespread devastation and misery.”<sup>50</sup>

The field armies of the religious wars varied greatly in size and composition, based on the ability of their commanders to mobilize forces to attract noble cli-

50 Wood, *The King’s Army*, 5.

ents and allies. Infantry units normally had a mixed complement of pikemen and arquebusiers, but urban militias and peasant bands also accompanied some field armies.<sup>51</sup> Cavalry played a vital role in battles and siege operations throughout the French Wars of Religion. The *gendarmes* demonstrated their shock power at the battle of Dreux (December 1562), the first major battle of the religious wars.<sup>52</sup> Wood emphasizes the continued importance of the *gendarmes*: "Rather than decline, the period actually witnessed the triumph of the gendarmerie through the convergence of different types of battle cavalry into a single overwhelmingly favored type of heavy cavalry."<sup>53</sup> Other types of cavalry such as *chevaux légers*, *arquebusiers à cheval*, and German Reiters (pistoleers) supported the heavy cavalry. Field armies prosecuted numerous sieges during the religious wars, seeking to advance confessional aims, access religious sites, and control urban populations.

Recent studies of noble clienteles during the religious wars demonstrate that French nobles participated actively in religious conflict and political culture.<sup>54</sup> Arlette Jouanna argues that French nobles articulated their political goals through their manifestos and their rituals of arming in civil war.<sup>55</sup> Noble clienteles formed armed *partis* (religio-political parties) to advance their confessional aims and engage in religious warfare. Some nobles published printed pamphlets articulating their religious politics and relating their victories in battles and sieges. Provincial governors and administrative officers organized military forces through their clienteles and waged confessional conflict.<sup>56</sup> However, many noble families were divided by faith and struggled to maintain kinship and clientage relations in the context of religious warfare.<sup>57</sup> Noblewomen played a

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51 André Corvisier, "Les guerres de Religion, 1559-1598," in *Histoire militaire de la France. I. Des origines à 1715*, ed. Philippe Contamine, Paris: Presses Universitaires de France, 1992.

52 Wood, *The King's Army*, 184-204.

53 Wood, *The King's Army*, 129.

54 Laurent Bourquin, *Les nobles, la ville et le roi. L'autorité nobiliaire en Anjou pendant les guerres de Religion*, Paris: Belin, 2001; Jonathan Dewald, *Aristocratic Experience and the Origins of Modern Culture: France, 1570-1715*, Berkeley, CA: University of California Press, 1993; Kristen B. Neuschel, *Word of Honor: Interpreting Noble Culture in Sixteenth-Century France*, Ithaca, NY: Cornell University Press, 1989.

55 Arlette Jouanna, *Le devoir de révolte: La noblesse française et la gestation de l'État moderne, 1559-1661*, Paris: Fayard, 1989.

56 Robert R. Harding, *Anatomy of a Power Elite: The Provincial Governors of Early Modern France*, New Haven, CT: Yale University Press, 1978.

57 Michel Nassiet, *Parenté, noblesse, et états dynastiques, XV-XVI<sup>e</sup> siècles*, Paris: Éditions de l'École des Hautes Études en Sciences Sociales, 2000.



significant role in organizing military forces and defending châteaux in confessional conflicts.

Huguenot militants could be aggressive in pressing their demands early in the religious wars, when the Reformed movement seemed poised to transform the entire kingdom.<sup>58</sup> Prominent Calvinist nobles such as Louis I de Bourbon, prince de Condé, and Henri de Bourbon, roi de Navarre, led Huguenot field armies. Huguenot military forces relied on close coordination between Calvinist nobles and the Reformed *places de sûreté* (security towns).<sup>59</sup> Huguenot militancy encouraged sustained iconoclasm to cleanse Catholic churches and close monasteries, sometimes resulting in more widespread urban violence.<sup>60</sup> Huguenot nobles provided protection for Reformed communities and permitted Calvinist worship in the seigneuries and towns they controlled.<sup>61</sup> This protection was vital, since Huguenots never represented more than about 10 percent of the population of the kingdom. Huguenots financed war through contributions from Reformed-majority towns and confiscations of royal revenues and Catholic properties.<sup>62</sup> Humanist writers and printers defended the Huguenot cause and formulated theories of resistance.<sup>63</sup> Huguenot field armies operated with robust cavalry forces that performed well throughout the religious wars, winning major

58 Philip Benedict, "The Dynamics of Protestant Militancy: France, 1555-1563," in *Reformation, Revolt and Civil War in France and the Netherlands, 1555-1585*, ed. Philip Benedict, Guido Marnef, Henk van Nierop, and Marc Venard, Amsterdam: Royal Netherlands Academy of Arts and Sciences, 1999, 35-50.

59 Pierre-Jean Souriac, *Les Places de sûreté protestantes. Reconnaissance et déclin de la puissance militaire du parti protestant*, mémoire de maîtrise, Université de Toulouse II-Le Mirail, 1998; Kevin C. Robbins, *City on the Ocean Sea: La Rochelle, 1530-1650: Urban Society, Religion, and Politics on the French Atlantic Frontier*, Leiden: Brill, 1997.

60 Allan A. Tulchin, *That Men Would Praise the Lord: The Triumph of Protestantism in Nîmes, 1530-1570*, Oxford: Oxford University Press, 2010.

61 Stéphane Gal, *Lesdiguières. Prince des Alpes et connétable de France*, Grenoble: Presses Universitaires de Grenoble, 2007; Philip Conner, *Huguenot Heartland: Montauban and Southern French Calvinism during the Wars of Religion*, Aldershot: Ashgate, 2002.

62 S. Amanda Eurich, *The Economics of Power: The Private Finances of the House of Foix-Navarre-Albret during the Religious Wars*, Kirksville, MO: Sixteenth Century Journal Publishers, 1994; Mark Greengrass, "Financing the Cause: Protestant Mobilization and Accountability in France (1562-1589)," in *Reformation, Revolt and Civil War in France and the Netherlands, 1555-1585*, ed. Philip Benedict, Guido Marnef, Henk van Nierop, and Marc Venard, Amsterdam: Royal Netherlands Academy of Arts and Sciences, 1999, 233-254.

63 Hugues Daussy, *Les Huguenots et le roi. Le combat politique de Philippe Duplessis-Mornay (1572-1600)*, Geneva: Droz, 2002; Robert M. Kingdon, "Calvinism and Resistance Theory, 1550-1580," in *Cambridge History of Political Thought*, ed. J. H. Burns, Cambridge: Cambridge University Press, 1991, 194-218.



battlefield victories at Coutras (1587), Arques (1589), and Ivry (1590).<sup>64</sup> By the latter stages of the religious wars, the Reformed cause was relatively divided and Huguenot militancy was difficult to sustain.<sup>65</sup>

Catholic militants organized *partis* around leading Catholic nobles, such as François de Lorraine, duc de Guise, who was assassinated while directing the royal army's siege of Orléans in 1563. Various members of the Lorraine-Guise, Montmorency, Montpensier, Nevers, and other Catholic families inspired Catholic militancy and sometimes led small field armies. Catholic civic militias engaged in urban politics and participated in regional conflicts and raiding warfare.<sup>66</sup> The radicalization of the Catholic militia of Paris contributed to the mass killing of Huguenots in the city during the Saint Bartholomew's Day Massacre (1572).<sup>67</sup> Many Catholics became frustrated with compromises that Henri III (r. 1574-1589) made with Huguenot militants, however. Local Catholic Leagues formed in the mid-1570s, as religious politics became even more polarized. Henri de Lorraine, duc de Guise, emerged as the popular leader of the Catholic Leagues, able to pressure the royal family into taking a firmer stance against heresy. Catholic Leaguers took control of Paris during the Day of the Barricades (1588), forcing the king to flee to the Loire valley. Henri III's bodyguards brutally assassinated the duc de Guise and his brother during negotiations at the Estates of Blois in December 1588, shocking Catholics and galvanizing Catholic League opposition. Catholic printers produced virulent Leaguer propaganda against the king, depicting him as a heretic, a sorcerer, and a monster.<sup>68</sup> Jacques Clément, a radicalized Catholic League supporter, assassinated Henri III the following year, prompting celebrations by Catholic Leaguers.<sup>69</sup>

64 Ronald S. Love, "'All the King's Horsemen': The Equestrian Army of Henri IV, 1585-1598," *Sixteenth Century Journal* 22 (Autumn 1991): 510-533.

65 Alan James, "Huguenot Militancy and the Seventeenth-Century Wars of Religion," in *Society and Culture in the Huguenot World, 1559-1685*, ed. Raymond A. Mentzer and Andrew Mentzer, Cambridge: Cambridge University Press, 2002, 209-223.

66 Pierre-Jean Souriac, *Une guerre civile. Affrontements religieux et militaires dans le Midi Toulousain (1562-1596)*, Seyssel: Champ Vallon, 2008.

67 Jérémie Foa, *Tous ceux qui tombent. Visages du massacre de la Saint-Barthélémy*, Paris: La Découverte, 2021; Barbara B. Diefendorf, *Beneath the Cross: Catholics and Huguenots in Sixteenth-Century Paris*, Oxford: Oxford University Press, 1991, 159-175.

68 Luc Racaut, *Hatred in Print: Catholic Propaganda and Protestant Identity during the French Wars of Religion*, Aldershot: Ashgate, 2002.

69 Ariane Boltanski, *Les ducs de Nevers et l'état royal. Genèse d'un compromis (ca 1550 – ca 1600)*, Geneva: Librairie Droz, 2006; Stuart Carroll, *Noble Power during the French Wars of Religion: The Guise Affinity and the Catholic Cause in Normandy*, Cambridge: Cambridge



Fig. 4. Jean-Jacques Perrissin and Jacques Tortorel, “La surprinse de la ville de Nimes en Languedoc par ceux de la religion le 15. de novembre 1569. En la nuit,” in Jean-Jacques Perrissin and Jacques Tortorel, *Tableaux de l’histoire de France*, 1570, engraving, Musée Carnavalet, 2022.0.1257.

The Huguenot military leader Henri de Bourbon, roi de Navarre, inherited the throne as Henri IV (r. 1589-1610), but faced enormous opposition. The Catholic Leagues considered Henri a heretic and rejected his legitimacy, even after he converted to Catholicism in 1593.<sup>70</sup> Armed Catholic clergy justified violence in sermons and processions, motivating Catholic Leaguers in their militant struggle against heresy.<sup>71</sup> The religious and political turmoil produced a mul-

University Press, 1998.

70 Gabriella Scarlatta and Lidia Radi, eds., *Representing Heresy in Early Modern France*, Toronto: University of Toronto Press, 2017; Michael Wolfe, *The Conversion of Henri IV: Politics, Power, and Religious Belief in Early Modern France*, Cambridge, MA: Harvard University Press, 1993.

71 Gregory Bereiter, “‘Ils ne tendent pas à la defense de votre Église’: discerner l’opposition ec-

ti-sided conflict with diverse confessional affiliations and alliances.<sup>72</sup> Catholic moderates (often referred to as *politiques*) sometimes formed coalitions with certain Huguenots, mounting multi-confessional field armies.<sup>73</sup> Following his conversion, Henri IV attracted more Catholic moderates and fielded multi-confessional field armies against Catholic League and Spanish forces.

Urban centers were important objectives in religious warfare because of their strategic significance, but also because they contained churches, monasteries, and shrines that represented crucial religious sites to control.<sup>74</sup> Catholics and Calvinists both targeted urban populations for aggressive campaigns of preaching and conversion. At the outbreak of each successive religious conflict, military forces attempted to seize control of urban centers in surprise attacks. Many cities and towns experienced surprise attacks, blockades, and formal sieges during the religious wars.<sup>75</sup> James B. Wood provides a detailed reconstruction of the royal army's siege of La Rochelle (1573), the principal Huguenot city in the kingdom, demonstrating the rhythm of bombardments assaults, and sorties.<sup>76</sup> Civilians suffered terribly from blockades and bombardments, but urban women were sometimes played a significant role in siege defenses.<sup>77</sup>

The confessional conflicts in France attracted financial aid and military intervention by co-religionaries. Catholic and Huguenot field armies both recruited Swiss mercenary forces from particular cantons throughout the religious wars.

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clésiastique à la Sainte Union,” in *La Ligue et ses frontières. Engagements catholiques à distance du radicalisme à la fin des guerres de Religion*, ed. Sylvie Daubresse and Bertrand Hagan, Rennes: Presses Universitaires de Rennes, 2015, 157-173.

72 Mark W. Konner, *Local Politics in the French Wars of Religion: The Towns of Champagne, the Duc de Guise, and the Catholic League, 1560-95*, Aldershot: Ashgate, 2006; Xavier Le Person, “Pratiques” et “Practiqueurs”. *La vie politique à la fin du règne de Henri III (1584-1589)*, Geneva: Librairie Droz, 2002; Nicolas Le Roux, Nicolas. *La faveur du roi. Mignons et courtisans au temps des derniers Valois (vers 1547 - vers 1589)*, Seyssel: Champ Vallon, 2000.

73 Mack P. Holt, *The Duke of Anjou and the Politique Struggle during the Wars of Religion*, Cambridge: Cambridge University Press, 1986.

74 Penny Roberts, “The Most Crucial Battle of the Wars of Religion? The Conflict over Sites for Reformed Worship in Sixteenth-Century France,” *Archiv für Reformationsgeschichte* 89 (1998): 247-267.

75 Brian Sandberg, “‘The Enterprises and Surprises that They Would Like to Perform’: Fear, Urban Identities, and Siege Culture during the French Wars of Religion,” in *The World of the Siege: Representations of Early Modern Positional Warfare*, ed. Anke Fischer-Kattner and Jamel Ostwald, Leiden: Brill, 2019, 265-287.

76 Wood, *The King's Army*, 246-274.

77 Brian Sandberg, “‘Generous Amazons Came to the Breach’: Besieged Women in the French Wars of Religion,” *Gender and History* 16 (November 2004): 654-688.

Protestant forces from England and Germany aided Huguenots in multiple military campaigns.<sup>78</sup> French nobles and military forces periodically intervened in the Dutch Revolt (1566-1648) in the Spanish Netherlands, mostly notably when François de Valois, duc d'Anjou, briefly led Dutch rebels.<sup>79</sup> In the 1590s, Spanish and Italian forces intervened in the religious wars to assist the Catholic League against Henri IV.<sup>80</sup>

The connections between religious violence, civil warfare, and other forms of violence are increasingly being explored. Hervé Drévilion examines the spread of the rapier swords and the *maîtres d'armes* (fencing masters) who trained young nobles in swordfighting and military arts.<sup>81</sup> Kate Van Orden demonstrates the connections between arms, music, and court culture through martial rituals and performances such as *ballets de cour* (court's ballets), *Te Deum* ceremonies (celebrations of victories), and *ballets à cheval* (horse ballets).<sup>82</sup> Stuart Carroll examines interpersonal conflict among early modern French nobles as "vindicatory violence," which encompasses "acts of violence, such as revenge killing and the duel, which repair an honour or injury and which are suggestive of a reciprocal relationship between the parties, such as one finds in the feud."<sup>83</sup> In the context of pervasive civil conflict, different forms of interpersonal violence (brawling, dueling, murder, assassination, and feuding) could all operate through a process of escalation and reprisal. Carroll emphasizes that "the longevity and intensity of civil war cannot be wholly attributed to high political events," since noble families' disputes and provincial rivalries fueled vindicatory violence.<sup>84</sup> Michel Nassiet has similarly examined the "culture of vengeance" during the religious wars as part of a broader social history of violence in early modern France.<sup>85</sup>

78 Jonas van Tol, *Germany and the French Wars of Religion, 1560-1572*, Leiden: Brill, 2019.

79 Holt, *The Duke of Anjou and the Politique Struggle during the Wars of Religion*, 166-184.

80 Sylvie Daubresse and Bertrand Haan, eds., *La Ligue et ses frontières. Engagements catholiques à distance du radicalisme à la fin des guerres de Religion*, Rennes: Presses Universitaires de Rennes, 2015; Fabrice Micallef, *Un désordre européen. La compétition internationale autour des 'affaires de Provence' (1580-1598)*, Paris: Publications de la Sorbonne, 2014.

81 Pascal Briost, Hervé Drévilion, and Pierre Serna, *Croiser le fer. Violence et culture de l'épée dans la France moderne (XVIe-XVIIIe siècle)*, Seyssel: Champ Vallon, 2002.

82 Kate Van Orden, *Music, Discipline, and Arms in Early Modern France*, Chicago, IL: University of Chicago Press, 2005.

83 Stuart Carroll, *Blood and Violence in Early Modern France*, Oxford: Oxford University Press, 2006, 5-10.

84 Carroll, *Blood and Violence in Early Modern France*, 264-265.

85 Michel Nassiet, *La Violence, une histoire sociale. France, XVIe-XVIIIe siècle*, Seyssel: Champ Vallon, 2011.



Truces and peaces periodically interrupted the religious wars, but only for brief intervals. Olivier Christin defines religious peaces as resulting from negotiations that attempted to achieve limited religious coexistence.<sup>86</sup> Recent studies have investigated the processes of religious peacemaking in local communities across the kingdom.<sup>87</sup> The Edict of Nantes (1598) represents the best-known of the religious peaces, but even it could not end religious conflicts, which continued to flare up in mixed confessional regions of France until 1629.<sup>88</sup> The religious wars in France reveal the complexities of applying the criteria of the Military Revolution to states experiencing sustained religious conflict and civil warfare.

### *Thirty Years' War and the Franco-Spanish War*

The French military system's involvement in the Thirty Years' War (1618-1635) and its prosecution of the Franco-Spanish War (1635-1649) have fueled much of the debate about the French military system and the Military Revolution. The Thirty Years' War had been raging in Germany since the outbreak of the Bohemian Revolt in 1618, progressively widening into a sprawling international conflict. Under the direction of Cardinal Armand-Jean du Plessis de Richelieu, chief minister for Louis XIII from 1624 to 1642, France gradually intervened peripherally in the conflict and provided significant financial support to support Swedish intervention in 1631. Nonetheless, Louis XIII's decision to declare war on Spain and the Emperor in 1635 greatly expanded the conflict, as French armies fought against Spanish forces and their allies in Germany, the Spanish Netherlands, northeastern France, the Pyrenees, Italy, and Spain. David Parrott argues that "waging such a war placed great pressure upon the administrative and fiscal capacities of the French state."<sup>89</sup>

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86 Olivier Christin, *La paix de religion. L'autonomisation de la raison politique au XVI<sup>e</sup> siècle*, Paris: Seuil, 1997.

87 Jérémie Foa, *Le tombeau de la paix. Une histoire des édits de pacification (1560-1572)*, Limoges: Presses Universitaires de Limoges, 2015; Penny Roberts, *Peace and Authority during the French Wars of Religion, c. 1500-1600*, Houndmills: Palgrave Macmillan, 2013; Michel Grandjean and Bernard Roussel, ed., *Coexister dans l'intolérance. L'édit de Nantes (1598)*, Geneva: Labor et Fides, 1998.

88 Brian Sandberg, *Warrior Pursuits: Noble Culture and Civil Conflict in Early Modern France*, Baltimore, MD: Johns Hopkins University Press, 2010; Brian Sandberg, "'To Deliver a Greatly Persecuted Church': Resituating the Edict of Nantes within the History of *Laïcité*," *Storica* 38 (2007): 33-64.

89 David Parrott, *Richelieu's Army: War, Government and Society in France, 1624-1642*, Cambridge: Cambridge University Press, 2001, 1.



Historians have focused on the early phases of French intervention into the Thirty Years' War. French forces aimed to transform the ongoing war during the 1635 campaign, finding new allies and military contractors in Germany and Italy. A French army invaded the Spanish Netherlands and united with Dutch forces, but failed to take Brussels. Bernard von Saxe-Weimar became a leading military contractor in French service in Germany.<sup>90</sup> Odoardo Farnese, Duke of Parma, allied with France and declared war on Spain in 1635, challenging Spanish domination of northern Italy. Farnese seems to have been somewhat of a military adventurer who hoped to profit spectacularly from war.<sup>91</sup> Historians have debated French war preparedness and Cardinal Richelieu's strategic decision-making. Emperor Ferdinand II had been pursuing negotiations with German princes for a Peace of Prague in 1635, but the shifting military situation disrupted the peace process.<sup>92</sup>

Cardinal Richelieu formulated an ambitious plan for campaigns along the Rhine, an invasion of Franche-Comté, and a rapid conquest of the Duchy of Milan in 1636.<sup>93</sup> Victor-Amadeus, Duke of Savoy, commanded the main French and Savoyard army that invaded Milan and engaged the Spanish forces in Lombardy. After a bloody clash at Tornavento, the French and Savoyard troops got mired in raiding warfare and pillaging. According to Gregory Hanlon, "for the French, Italy was 'the cemetery of armies', where their designs for conquest or domination always came undone."<sup>94</sup> Meanwhile, a Spanish army invaded Picardie and Champagne, seizing Corbie and Roye, and causing panic in Paris. Historians have often focused on the disaster of Corbie, rather than considering the strategic and logistical complexities of waging simultaneous campaigns in warfare on multiple theaters.<sup>95</sup>

The overall size of French armed forces grew dramatically during the Thirty Years' War, leading historians to examine the issues of military recruitment, war

90 David Parrott, *The Business of War: Military Enterprise and Military Revolution in Early Modern Europe*, Cambridge: Cambridge University Press, 2012, 107-109.

91 Gregory Hanlon, *The Hero of Italy: Odoardo Farnese, Duke of Parma, his Soldiers, and his Subjects in the Thirty Years' War*, Oxford: Oxford University Press, 2014.

92 Peter Wilson, *The Thirty Years War: Europe's Tragedy*, Cambridge, MA: Belknap Press, 2009, 565-587.

93 Parrott, *Richelieu's Army*, 117-122.

94 Gregory Hanlon, *Italy 1636: Cemetery of Armies*, Oxford: Oxford University Press, 2016.

95 André Corvisier, "Renouveau militaire et misères de la guerre, 1635-1659," in *Histoire militaire de la France. I. Des origines à 1715*, ed. Philippe Contamine, Paris: Presses Universitaires de France, 1992, 353-382.



Fig. 5. Abraham Bosse, *Les forces de la France soubz le Regne du Trescrestien & tres victorieux Monarque Louis le Juste*, ca. 1630, etching, Metropolitan Museum of Art, 56.564.2.

finances, logistics, and state development in relationship to the Military Revolution thesis. Yet, surviving muster rolls, financial records, and other military documents make it very difficult to establish precise figures on the strengths of military units.<sup>96</sup> French field armies seem to have continued to employ diverse

96 Parrott, *Richelieu's Army*, 164-222; Lynn, *Giant of the Grand Siècle*, 20-30, 67-106.





military units similar to those of the latter stages of the religious wars. Infantry regiments emerged as key organizational units by the mid-seventeenth century, as musketeers gradually replaced arquebusiers alongside the pikemen.

Studies of military logistics and the “sinews of war” have considered the burdens of waging the Thirty Years’ War. Civilian *secrétaires d’état* (ministers) managed royal policy, but these ministerial positions became monopolized under Cardinal Richelieu. David Parrott and James B. Collins have shown that the war finance and taxation systems of the French state ultimately limited its ability to recruit and maintain military forces sufficient to achieve the ambitious strategic

aims of Louis XIII and Cardinal Richelieu.<sup>97</sup> Provincial military and administrative officers had to implement tax policies and management recruitment through complex negotiations with various regional and municipal authorities. Urban crowds protested new taxes and military contributions, sometimes leading to urban revolts.<sup>98</sup> Soldiers enforced taxes and extracted resources from rural communities using military contributions, provoking widespread peasant revolts.<sup>99</sup>

Much of the Military Revolution Debate about tactics during the Thirty Years' War has been focused on evaluations of tactical successes and failures in major battles, often influenced by the myth of the "decisive battle."<sup>100</sup> The Spanish defeat of the Swedish army at the battle of Nördlingen (1634) certainly had major diplomatic ramifications, convincing Louis XIII to intervene in the Thirty Years' War, but its tactical significance is more difficult to discern. The defeat of the *tercios* of the Spanish Army of Flanders by a French army under Louis II de Bourbon (1621-1686), duc d'Enghien, at the battle of Rocroi (1643) should not be read as a confirmation of cavalry superiority to infantry. Battles also need to be placed in the broader contexts of military operations that involved extensive positional war and raiding war. David Parrott is right to point out the close connections between battles and sieges in seventeenth-century warfare.<sup>101</sup>

The diffusion of infantry drill and military discipline has been linked to the circulation of printed military manuals. Sixteenth-century Italian military manuals were often translated into French and other languages. Early seventeenth-century Dutch infantry manuals such as Jacob de Gheyn's and Johann Jacob von Wallhausen's infantry manuals communicated infantry drill techniques through detailed engravings, which were rapidly published in translated editions.<sup>102</sup> French printers increasingly published illustrated military manuals and treatises that provided practical information on organizing and conducting warfare. Antoine Pluvinel's *L'instruction du Roy en l'exercice de monter à*

97 Parrott, *Richelieu's Army*, 225-276; James B. Collins, *The Fiscal Limits of Absolutism*, Berkeley, CA: University of California Press, 1988.

98 William Beik, *Urban Protest in Seventeenth-Century France: The Culture of Retribution*, Cambridge: Cambridge University Press, 1997.

99 Yves-Marie Bercé, *Histoire des Croquants. Etude des soulèvements populaires au XVII<sup>e</sup> siècle dans le sud-ouest de la France*, 2 vols., Geneva: Droz, 1974.

100 Yuval Noah Harari, "The Concept of 'Decisive Battles' in World History," *Journal of World History* 18:3 (September 2007): 251-266; Black, *European Warfare, 1660-1815*, 67-86.

101 Parrott, *Richelieu's Army*, 71.

102 Jacob de Gheyn, *Maniement d'armes, d'arquebuses, mousquets et piques*, The Hague, 1608; Johann Jacob von Wallhausen, *L'art militaire pour l'infanterie*, Franeker: Ullrich Balck, 1615.

*cheval* offered advice on horse riding techniques.<sup>103</sup> Jacques Perret, Jean Errard, Antoine Deville, Pierre Bourdin, George Fournier, and other military architects published treatises on fortifications and military engineering in French language.<sup>104</sup> Yet, the relationship between military manuals and tactical practices is rarely clear.

Royal military and administrative officers relied on patronage and clientage to organize and finance military forces. Patronage and clientage continued to be crucial at all levels of the French military system, as ministers and army commanders built significant clienteles. However, Cardinal Richelieu and his successor Cardinal Jules Mazarin (chief minister from 1642 to 1660) both seem to have been able to operate ministerial clienteles on a new scale. Sharon Kettering reconstructs the operation of noble and administrative clienteles in seventeenth-century France, arguing that “patronage is the art of obligation, of manipulation through rewards and punishment.” Kettering argues that brokers were central to patronage and defines a patron-broker-client relationship as “a three party, indirect, more impersonal exchange in which a broker mediates between parties separated by distance, using resources he does not always directly control.”<sup>105</sup>

Military enterprise has often been seen as a defining feature of warfare during the period associated with the Military Revolution. David Parrott challenges interpretations of the Thirty Years’ War that depict Albrecht von Wallenstein as the “epitome” of military contracting, arguing that military entrepreneurs continued to use various forms of military contracting to recruit troops and wage war. Instead, Parrott offers a history of “the rise, success and transformations of military enterprise—warfare organized and waged by private contractors—in early modern Europe”<sup>106</sup> Perpetual campaigning and long wars gradually forced changes in military contracting, military administration, and resource mobilization.<sup>107</sup> According to Parrott “much more than technological or tactical developments, it is arguable that the lengthening of periods of continuous warfare—a process which started in the 1550s, progressed through the later sixteenth cen-

103 Antoine Pluvinel, *L’instruction du Roy en l’exercice de monter à cheval*, Paris: Michel Nivel-le, 1625.

104 Martha Pollak, *Military Architecture, Cartography and the Representation of the Early Modern European City: A Checklist of Treatises on Fortification in the Newberry Library*, Chicago, IL: Newberry Library, 1991, 7, 22-24, 37-38, 46-47, 50-51, 52-53, 80-81.

105 Sharon Kettering, *Patrons, Brokers, and Clients in Seventeenth-Century France*, Oxford: Oxford University Press, 1986, 3-5.

106 Parrott, *The Business of War*, 1.

107 Parrott, *The Business of War*, 103-104.





*Israël ex. Cum Privilegio Reg.*  
*Ceux que Marr entretient de ses actes meschans* *Ils les font prisonniers*  
*Accommodent ainsi les pauvres gens des champs* *Et sur le bestail mesme*

Fig. 6. Jacques Callot, "A town being sacked with church in the background," in *Les misères et les malheurs de la guerre*, etching, Metropolitan Museum of Art, 2012.136.256.

tury and culminated in the Thirty Years War—was the key early modern ‘revolution in military affairs’, the single transformative factor which had a major impact on the entire conduct of warfare.”<sup>108</sup>

<sup>108</sup> Parrott, *The Business of War*, 76.





*ils brulent leurs villages, Sans que la peur des Loix non plus que le deuor,  
l'exercent des ravages, Ny les pleurs et les cris les puissent esmouvoir.*

The suffering of civilians during the Thirty Years' War has been explored in war zones across France, Germany, the Spanish Netherlands.<sup>109</sup> Soldiers' pred-

<sup>109</sup> André Corvisier and Jean Jacquart, eds., *Les malheurs de la guerre I. De la guerre à l'ancienne à la guerre réglée*, Paris: Éditions du CTHS, 1996; Hale, *War and Society in Renaissance Europe*, 179-208; Myron P. Gutman, *War and Rural Life in the Early Modern Low Countries*, Princeton, NJ: Princeton University Press, 1980; Fritz Redlich, *De Praeda Militari: Looting and Booty 1500-1815*, Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte, Beihefte 39, Wiesbaden: Franz Steiner Verlag, 1956.

atory violence against civilians have documented in local chronicles, municipal papers, court records, and baptismal and death registers. Jacques Callot's famous engravings on the "miseries of war" remind us of Francophone perspectives on the violence against civilians during the Thirty Years' War.<sup>110</sup> Callot was from the francophone duchy of Lorraine and may have been commenting on the devastation of Lorraine, which was occupied by French military forces. French armies certainly inflicted considerable damage on communities in Alsace, Lorraine, and the Spanish Netherlands during the intense military campaigns and sieges in the latter stages of the Thirty Years' War. John A. Lynn shows how French soldiers exacted a tax of violence against French civilians during wartime.<sup>111</sup> Recent studies have focused on civilians' experiences of war and their survival strategies in Germany, Italy, and the Netherlands.<sup>112</sup> Many urban residents and peasants fled from war zones as refugees. Entire regions suffered from depopulation and economic collapse due to the devastation wrought by the passage of field armies. War refugees might flee to other regions or cross borders seeking safety.<sup>113</sup>

The final stages of the Thirty Years' War highlight the connections between warmaking and peacemaking in the early modern period. French diplomats participated in the negotiations at Osnabrück and Münster for a potential European peace beginning in 1643, but Cardinal Mazarin apparently believed that total victory over Spain was possible. "Having apparently come so close in the campaign of 1643," Paul Sonnino insists, "Mazarin was intent on making the campaign of 1644 the one that would win the war."<sup>114</sup> Derek Croxton analyzes in detail the simultaneous warfare and negotiation between 1644 and 1648 that produced military stalemate and continued antagonism between France and Spain.<sup>115</sup> The complex treaties that are collectively known as the Peace of Westphalia (1648) thus settled the Thirty Years' War, but not the Franco-Spanish War,

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110 Jacques Callot, *Les Grandes Misères et Malheurs de la Guerre* (1633); Katie Hornstein, "Just Violence: Jacques Callot's *Grandes Misères et Malheurs de la Guerre*," *Bulletin of the University of Michigan Museums of Art and Archaeology* 16 (2005): 29-48.

111 John A. Lynn, "How War Fed War: The Tax of Violence and Contributions during the *Grand Siècle*," *Journal of Modern History* 65 (June 1993): 286-310.

112 Sigrun Haude, *Coping with Life during the Thirty Years' War (1618-1648)*, Leiden: Brill, 2021.

113 Nicholas Terpstra, *Religious Refugees in the Early Modern World*, Cambridge: Cambridge University Press, 2015.

114 Paul Sonnino, *Mazarin's Quest: The Congress of Westphalia and the Coming of the Fronde*, Cambridge, MA: Harvard University Press, 2008.

115 Derek Croxton, *Peacemaking in Early Modern Europe: Cardinal Mazarin and the Congress of Westphalia, 1643-1648*. Selingsgrove, PA: Susquehanna University Press, 1999.

which would continue for another decade. Diplomatic historians and political scientists often consider the Peace of Westphalia a landmark European peace agreement, arguing that it produced a European (or Westphalian) system of international relations.<sup>116</sup> Baumgartner argues that “formal declarations of war became the more common practice at outbreaks of international violence after 1648,” a key aspect of a developing *jus gentium* (law of nations).<sup>117</sup>

Mazarin’s failure to negotiate a peace with Spain and the strains of the ongoing Franco-Spanish War created instability during the minority of Louis XIV and the regency of his mother, Anne d’Autriche, from 1643 to 1651. As tax protests and political unrest spread, judges of the Parlement de Paris opposed new royal taxes. When royal officials arrested several of the judges, crowds seized control of Paris, forcing Cardinal Mazarin the royal family to flee igniting the Fronde Civil War. Meanwhile, civil warfare gradually spread to the provinces, as parlementaire judges and urban elites in Bordeaux, Aix-en-Provence, and other cities rebelled.<sup>118</sup> Some princely nobles joined the Parisians while others remained loyal to Cardinal Mazarin, and fighting broke out between the opposing camps. Louis II de Bourbon, prince de Condé, led a royal army to besiege Paris, producing a brief peace in 1649.<sup>119</sup> The prince de Condé hoped to be named chief minister, but instead was rebuffed and imprisoned along with his brother, igniting renewed rebellion by supporters of the princes. Michel Le Tellier (1603-1685), *secrétaire d’état de guerre* (war minister), continued to organize the royal armies to fight against the Spanish and the Frondeurs. Henri de La Tour d’Auvergne, vicomte de Turenne, emerged as the leading army commander for the royalists and the prince de Condé fled the kingdom and joined Spanish service.

Historians have examined the complex politics of the Fronde and especially the *Mazarinades*, (printed pamphlets attacking the Cardinal), which forced him to flee once again in 1651.<sup>120</sup> Jim Coons examines the propaganda surrounding

116 Jean-Pierre Kintz and Georges Livet, eds., *350e anniversaire des Traités de Westphalie. Une genèse de l’Europe, une société à reconstruire*, Strasbourg: Presses Universitaires de Strasbourg, 1999.

117 Baumgartner, *Declaring War in Early Modern Europe*, 95, 104.

118 Sharon Kettering, *Judicial Politics and Urban Revolt in Seventeenth-Century France: The Parlement of Aix, 1629-1659*, Princeton, NJ: Princeton University Press, 1979.

119 Geoffrey Treasure, *Mazarin: The Crisis of Absolutism in France*, London: Routledge, 1995; Orest Ranum, *The Fronde: A French Revolution, 1648-1652*, New York, NY: W.W. Norton, 1993.

120 Christian Jouhaud, *Mazarinades: La Fronde des mots*, Paris: Éditions Aubier Montaigne, 1985.



the prince de Condé, finding that a patriotic sense of Frenchness emerged during the Fronde.<sup>121</sup> However, after Condé and other princely Frondeurs allied with Spanish forces, they lost popular support within France. Cardinal Mazarin and the royal family were able to return to Paris in October 1652 and the civil war gradually sputtered out.

A French empire gradually developed in first half of the seventeenth century, expanding the sphere of French military and naval operations. France maintained trading posts and consular offices around the Mediterranean, promoting commerce but also engaging in maritime raiding warfare and slave-taking operations.<sup>122</sup> Another form of French empire emerged in the early seventeenth century, as Samuel de Champlain founded a permanent colonial settlement at Quebec.<sup>123</sup> French colonists, fur traders, and missionaries soon expanded up the Saint Lawrence River valley. Mercantilist policies supported gradual colonial development in the Atlantic world. A French royal navy gradually developed in the late sixteenth and early seventeenth centuries. French fleets were able to defend French interests and supported the sieges of La Rochelle (1627-1628) and Bordeaux (1653). "Though clearly the junior partner to the army, the navy had become one of the pillars of the French state," according to Alan James.<sup>124</sup> By the mid-seventeenth century, the navy was also supporting a nascent French overseas empire.

Historians' understandings of French warfare during the mid-seventeenth century have been shaped by military memoirs, which emerged as a genre of historical writing during the late sixteenth century, alongside histories of successive religious conflicts and local chronicles of war. Memoirs by Michel de Castelnau, Nicolas de Neufville, Philippe de Mornay, and other nobles were published in the early seventeenth century. Louis de Pontis's memoirs of his experiences in the Thirty Years' War and the Fronde were published soon after his death, in part because of his connections with Jansenists at the Port-Royal monastery.<sup>125</sup> Many nobles, such as François de Bassompierre, wrote manuscript

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121 James Coons, "How to Feel French: The Politics of Community and Emotion in the Siege of Paris (1649)," *French History*, 35:1 (March 2021), 1-24.

122 Gillian Weiss, *Captives and Corsaires: France and Slavery in the Early Modern Mediterranean*, Stanford, CA: Stanford University Press, 2011, 72-78.

123 Michel de Waele and Martin Pâquet, eds., *Québec, Champlain, le monde*, Quebec: Presses de l'Université de Laval, 2008.

124 Alan James, *The Navy and Government in Early Modern France, 1572-1661*, Woodbridge: Royal Historical Society, 2004, 164.

125 Louis de Pontis, *Mémoires (1676)*, ed. Andrée Villard, Paris: Honoré Champion, 2000.



memoirs that were not published until centuries later.<sup>126</sup> Military memoirs have been used to consider aspects of the Military Revolution, but can also generate new questions on the experiences of war in the seventeenth century. Most military memoirs were written by nobles in collaboration with their personal secretaries, often with political and religious agendas. Some nobles who fought in the Fronde and the Franco-Spanish War—including the prince de Condé—sought to defend or rehabilitate their political positions through their manifestoes and memoirs.<sup>127</sup> The prince de Condé was finally able to reconcile with Louis XIV following the Peace of the Pyrenees (1659).

### *Louis XIV, Roi de Guerre*

Louis XIV (r. 1643-1715) is normally viewed as a bellicose monarch who reigned as the Sun King and aimed to dominate all of Europe. The royal state and government administration under Louis XIV is often seen as the archetype of an “absolute” monarchy, considered as an important stage in early modern state development. Over the past several decades, historians have increasingly challenged the usefulness of the concept of “absolutism” and questioned how centralized and bureaucratic Louis XIV’s royal state really was.<sup>128</sup> French military and naval administration in the seventeenth century represent important cases for considering the concept of “absolutism” and the modernizing narrative of state development.<sup>129</sup>

Young Louis XIV’s experience of the Fronde Civil War clearly shaped his later views on authority and warfare. The king directed French military engineers to build citadels overlooking Marseille and other cities to guard against urban revolts. When Cardinal Mazarin died in 1661, Louis XIV decided not to name a new chief minister. Soon thereafter, he removed Nicolas Fouquet, who had been managing royal finances. Joël Cornette views Louis XIV as embod-

126 Mathieu Lemoine, *La Faveur et la gloire. Le maréchal de Bassompierre mémorialiste (1579-1646)*, Paris: Presses de l’Université de Paris-Sorbonne, 2012.

127 Pierre Lenet, *Relation de tout ce qui s’est fait et passé de messieurs les princes de Condé, de Conty, et du duc de Longueville. Jusques à present*, n.p., 1651.

128 William Beik, “Review Article: The Absolutism of Louis XIV as Social Collaboration,” *Past and Present* 188 (2005): 195-224; Nicholas Henshall, *The Myth of Absolutism: Change and Continuity in Early Modern Monarchy*, London: Longman, 1992; Roger Mettam, *Power and Faction in Louis XIV’s France*, Oxford: Basil Blackwell, 1988.

129 André Corvisier, “Louis XIV, la guerre et la naissance de l’armée moderne,” in *Histoire militaire de la France. I. Des origines à 1715*, ed. Philippe Contamine, Paris: Presses Universitaires de France, 1992, 383-413.



Fig. 7. Adam Frans Van der Meulen, *Le Passage du Rhin*, 1689-1690, painting, Musée du Louvre, INV 1490 ; MR 839.

ying the role of the *roi de guerre* (king of war), which reinforced the sacrality of the monarch by associating the figure of the king with military command.<sup>130</sup> Many historians have noted Louis XIV's seeming obsession with *gloire* (glory)

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<sup>130</sup> Joël Cornette, *Le roi de guerre. Essai sur la souveraineté dans la France du Grand Siècle*, Paris: Payot, 215-229.



and his desire to assert himself in warfare.<sup>131</sup> Louis XIV aggressively asserted his queen's rights to inherited properties in the Spanish Netherlands, provoking the War of Devolution (1667-1668). The Dutch, English, and Swedish responded to the French occupation of towns in the Spanish Netherlands by forming a Triple Alliance, angering Louis XIV.

Louis XIV's bellicose aims demanded improvements in French war finances, leading Jean-Baptiste Colbert (1619-1683) to transform French royal financial administration in the 1660s. Daniel Dessert describes the financiers who

<sup>131</sup> John A. Lynn, *The Wars of Louis XIV, 1667-1714*, London: Longman, 1999, 17-47.



managed royal financial and naval affairs as “the Colbert lobby.”<sup>132</sup> Jacob Soll portrays Colbert as the “information master” of Louis XIV’s royal state. “With the resources of a nation-state at his disposal, Colbert the bibliophile administrator, accountant, and founder of academies amassed enormous libraries and state, diplomatic, industrial, colonial, and naval archives.”<sup>133</sup> Soll observes that Colbert seems to have much more interested in European issues than colonial affairs, while other scholars have demonstrated that Louis XIV remained more focused on European territorial warfare than on colonial and naval warfare.

French naval policies became expansive, as Louis XIV sought to rival the English and Dutch navies in the Atlantic world. Colbert served as *secrétaire d’état de la marine* (navy minister), overseeing French shipbuilding, naval policies, and port construction. Colbert supervised the shipyards, logistical infrastructure, and personnel at the port of Rochefort, which became the main shipbuilding center for the royal navy.<sup>134</sup> Daniel Dessert details the shipbuilding program that created Louis XIV’s royal navy.<sup>135</sup> Colbert initiated the construction of the canal du Midi across southern France in 1666, aiming to connect the Garonne River with the Mediterranean Sea. When the costs of maintaining Louis XIV’s armies overwhelmed the shipbuilding budget, the French navy shifted to a strategy of *guerre de course* (raiding war).<sup>136</sup>

Louis XIV determined to punish the Dutch for their betrayal in forming the Triple Alliance against him. French diplomats worked to break up the alliance and isolate the Dutch, meanwhile, French military planners prepared for war. François-Michel le Tellier, marquis de Louvois (1641-1691) had succeeded his father, Michel Le Tellier, as *secrétaire d’état de guerre* (war minister) in the 1660s and he organized a three-pronged invasion of the Netherlands in 1672, with the vicomte de Turenne commanding the main field army. The French armies advanced rapidly, and troops led by the prince de Condé crossed the Rhine in June. “Louis would celebrate this crossing of the Rhine as one of his greatest military achievements, commemorating it allegorically.”<sup>137</sup> In response the Dutch opened the dikes, flooding the fields across the provinces of Utrecht and

132 Daniel Dessert, *Argent, pouvoir et société au Grand Siècle*, Paris: Fayard, 1984, 325-338.

133 Jacob Soll, *The Information Master: Jean-Baptiste Colbert’s Secret State Intelligence System*, Ann Arbor, MI: University of Michigan Press, 2009, 7.

134 Soll, *The Information Master*, 73.

135 Daniel Dessert, *La Royale, vaisseaux et marins du Roi-Soleil*, Paris, Fayard, 1996.

136 Geoffrey Simcox, *The Crisis of French Sea Power, 1688-1697: From the guerre d’escadre to the guerre de course*, The Hague: Nijhoff, 1974.

137 Lynn, *The Wars of Louis XIV, 1667-1714*, 114.

Holland, slowing the French advance. Louis XIV and his advisors decided to besiege Maastricht in spring 1673, but the rest of the campaign was improvised and ineffective, while the Dutch negotiated alliances with the King of Spain and with the Emperor.<sup>138</sup> By early 1674, “Louis now faced the kind of broad alliance and, consequently, long war that he would repeatedly face throughout the rest of his reign.”<sup>139</sup>

The Franco-Dutch War (1672-1678) expanded into a major European war, forcing new developments in military administration. Louis XIV and his *secrétaires d'état* (ministers) formulated policy through a complex royal administration. The offices of the four main *secrétaires d'état*, who were civilian royal officials, had become increasingly specialized during the seventeenth century. Each *secrétaire d'état* managed a *département* (department) overseeing war, navy, foreign affairs, or the royal household, in addition to administering several provinces. Thierry Sarmant and Mathieu Stoll trace the transformations of the ministerial government of Louis XIV.<sup>140</sup> The *secrétaires d'état* developed extensive clienteles and even ministerial dynasties, with family members serving with them and ultimately succeeding them in office. The marquis de Louvois assumed new responsibilities during the Franco-Dutch War. Beginning in 1675, Louis XIV consulted with the marquis de Louvois and his administrative staff to formulate war policy using *guerre de cabinet*, as the king met daily with his military advisors.<sup>141</sup> Jean-Philippe Cénat investigates the decision-making processes of the war department in detail, identifying central strategic concepts and principles that guided French warmaking and providing a nuanced view of the *guerre de cabinet*. Cénat argues that Louis XIV favored a strategy of intimidation and preventive war.<sup>142</sup>

The French monarchy established permanent armed forces under the administration of the marquis de Louvois. The French military steadily transformed as the royal state maintained many military units even in peacetime, lodging soldiers in with purpose-built barracks.<sup>143</sup> John A. Lynn identifies the develop-

138 Carl J. Ekberg, *The Failure of Louis XIV's Dutch War*, Chapel Hill, NC: University of North Carolina Press, 1979.

139 Lynn, *The Wars of Louis XIV, 1667-1714*, 123.

140 Thierry Sarmant and Mathieu Stoll, *Régner et gouverner. Louis XIV et ses ministres*, Paris: Perrin, 2010.

141 Lynn, *The Wars of Louis XIV, 1667-1714*, 23.

142 Jean-Philippe Cénat, *Le roi stratège. Louis XIV et la direction de la guerre (1661-1715)*, Rennes: Presses Universitaires de Rennes, 2010, 313-327.

143 Lynn, *Giant of the Grand Siècle*, 595-609.



ment of permanent military forces as a key component of the state-commission army style, which gradually emerged from the earlier aggregate-contract army.<sup>144</sup> Louis XIV's permanent military forces have been very influential in state development models by historical sociologists and political scientists. Charles Tilly constructed his models of state development and revolutionary situations largely based on his interpretation of French state development. In his landmark *The Contentious French*, Tilly observes the steady French engagement in wars during the mid- to late seventeenth century. He argues that "as they fashioned an organization for making war, the king's servants inadvertently created a centralized state. First the framework of an army, then a government built around that framework—and in its shape."<sup>145</sup>

French practices of conquest shifted gradually during the Franco-Dutch War. Early in the war, Louis XIV relied heavily on the military leadership of Turenne and Condé as field army commanders. After the prince de Condé's army conquered Franche-Comté in 1674, French royal officials reorganized provincial institutions, tax policies, and political systems as they gradually integrated the province into France. The marquis de Louvois served as the main royal administrator for Franche-Comté and other conquered provinces, and his goal was always to make war pay for war.<sup>146</sup> Much of the fighting in the Dutch Revolt revolved around siege warfare and *petite guerre* (small war) waged by garrison soldiers, as George Satterfield demonstrates. French military officers organized frequent raids in war zones to harass enemy forces, enforce contributions, and extract resources.<sup>147</sup>

Following the Franco-Dutch War, the French military engaged in several smaller-scale conflicts in the 1680s. Louis XIV and the marquis de Louvois orchestrated a series of military occupations of cities along France's eastern frontier, provoking the War of the Reunions (1683-1684). The royal army also carried out *dragonnades*, lodging cavalry soldiers on Huguenots in southern France, pressuring them to convert to Catholicism. Louis XIV then revoked the Edict of Nantes in 1685, forcing remaining Huguenots to convert or leave the kingdom. Thousands of Huguenots chose to emigrate to Protestant states such as England,

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144 Lynn, "The Evolution of Army Style in the Modern West, 800-2000," 505-545.

145 Charles Tilly, *The Contentious French: Four Centuries of Popular Struggle*, Cambridge, MA: Belknap Press, 1986, 127-128.

146 Darryl Dee, *Expansion and Crisis in Louis XIV's France: Franche-Comté and Absolute Monarchy, 1674-1715*, Rochester, NY: University of Rochester Press, 2009.

147 George Satterfield, *Princes, Posts and Partisans: The Army of Louis XIV and Partisan Warfare in the Netherlands, 1673-1678*, Leiden: Brill, 2003.

the Netherlands, or Brandenburg. The conflicts of the 1660s-1685 showcase some of the institutional developments associated with the Military Revolution, but also reveal practices of military occupation, small war, and coercion.

### *Louis XIV's France against Europe*

The so-called “third reign” of Louis XIV in the 1680s-1710s has attracted new historical attention recently, especially for the dynamics of European coalition warfare against France.<sup>148</sup> Louis XIV repeatedly alienated other European political actors and isolated himself diplomatically, but nonetheless went to war, hoping that his armies would deliver a knockout blow to his enemies and ensure a short war. John A. Lynn calls this “the fallacy of the short war” and argues that “Louis’s hopes for a short decisive conflict ran counter to the very nature of war in the seventeenth and eighteenth centuries.”<sup>149</sup>

The Nine Years’ War (1688-1697) opened with French armies besieging Philippsburg and inflicting massive destruction in the Palatinate. Émilie Dosquet explains that “the Sun King’s army implemented a large-scale, systematic scorched-earth policy from Cologne to Freiburg, combining three well-known tactics of the time: tax collection, ravages, and the dismantling of fortifications.”<sup>150</sup> This brutal campaign became known as the Devastation of the Palatinate, and prompted an outpouring of anti-French printed propaganda across Europe. Louis XIV’s enemies mobilized for coalition warfare against the perceived threat of French domination. William of Orange’s installment as king of England, Scotland, and Ireland during the Glorious Revolution (1688-1689) unified Anglo-Dutch military opposition to Louis XIV.<sup>151</sup> Louis XIV’s enemies

148 Hervé Drévillon, Bertrand Fonck, and Jean-Philippe Cénat, eds., *Les dernières guerres de Louis XIV: 1688-1715*, Rennes: Presses Universitaires de Rennes, 2017; André Corvisier, “La France et les guerres de Louis XIV, 1661-1697,” and “Au seuil d’une époque nouvelle : l’épreuve de la guerre de Succession d’Espagne. Guerre réglée et guerre nationale,” in *Histoire militaire de la France. 1. Des origines à 1715*, ed. Philippe Contamine, Paris: Presses Universitaires de France, 1992, 415-448, 527-549.

149 Lynn, *The Wars of Louis XIV, 1667-1714*, 45.

150 Émilie Dosquet, “‘We have been Informed that the French are Carrying Desolation Everywhere’: The Desolation of the Palatinate as a European News Event,” in *News Networks in Early Modern Europe*, ed. Raymond Joad et Moxham Noah, Leiden, Brill, 2016, 641-674.

151 John M. Stapleton, Jr. “The Dual Monarchy in Practice: Anglo-Dutch Alliance and War in the Spanish Netherlands 1689–1697,” in *Redefining William III: The Impact of the King-Stadholder in International Context*, ed. David Onnekink and Esther Mijers, London: Routledge, 2007, 69-90; John Childs, *The Nine Years’ War and the British Army, 1688-1697: The Operations in the Low Countries*, Manchester: Manchester University Press, 1991.

soon forged a Grand Alliance, or League of Augsburg, uniting English, Dutch, Imperial, Spanish, Savoyard military forces against France. Many European states strengthened their military systems and developed fiscal-military states to wage sustained coalition warfare against France or to respond to the threat of Louis XIV's aggression.<sup>152</sup> Jeremy Black thus refers to these states, as well as Brandenburg-Prussia and Russia, as "emerging military powers."<sup>153</sup>

By the time of the Nine Years' War, the war department headed by the marquis de Louvois included a series of *bureaux* and a large staff.<sup>154</sup> The *guerre de cabinet* evolved with the construction of the château de Versailles as a royal palace and office complex, essentially a new permanent capital. The château de Versailles has sometimes been presented as a magnificent residential palace that domesticated noble courtiers, but recent research shows that it was effectively a capital city and administrative center, filled with constant politics and policy-making.<sup>155</sup> Louis XIV's daily meetings with key advisors became more regularized and spatially organized in the *cabinet du roi* within the royal apartments.<sup>156</sup> The personal and spatial nature of the *guerre de cabinet* model of strategic formulation and information management offered opportunities for ministers' wives, royal mistresses, and their families to influence policymaking.<sup>157</sup> After Louis XIV's secret wedding to Françoise d'Aubigné, marquise de Maintenon, in 1683, she was able to wield enormous influence in royal decision-making. In a new study of Madame de Maintenon's political career, Mark Bryant argues "the influence she wielded in affairs of church and state was substantial and after 1698 ministerial in scope."<sup>158</sup>

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152 Jan Glete, "Warfare, Entrepreneurship, and the Fiscal-Military State," in *European Warfare, 1350-1750*, ed. Frank Tallett and D.J.B. Trim, Cambridge: Cambridge University Press, 2010, 300-321; Michael Hochedlinger, *Austria's War of Emergence: War, State and Society in the Habsburg Monarchy, 1683-1797*, London: Longman, 2003, 98-149, 168-173.

153 Black, *European Warfare, 1660-1815*, 100-118.

154 Lynn, *Giant of the Grand Siècle*, 73-75.

155 Thierry Sarmant, *Les demeures du soleil: Louis XIV, Louvois et la surintendance des bâtiments du roi*, Seyssel: Champ Vallon, 2003.

156 John C. Rule and Ben S. Trotter, *A World of Paper: Louis XIV, Colbert de Torcy, and the Rise of the Information State*, Montreal: McGill-Queen's University Press, 2014, 42-43.

157 Pauline Ferrier-Viaud, *Épouses de ministres. Une histoire sociale du pouvoir féminin au temps de Louis XIV*, Seyssel: Champ Vallon, 2022; Flavie Leroux, "L'intégration des maîtresses royales au 'système de la cour' (1661-1691)," in *Femmes à la cour de France. Charges et fonctions (XVe-XIXe siècle)*, ed. Caroline zum Kolk and Kathleen Wilson-Chevalier, Villeneuve d'Ascq: Presses Universitaires du Septentrion, 2018, 303-320.

158 Mark Bryant, *Queen of Versailles: Madame de Maintenon, First Lady of Louis XIV's France*,

Archival and information management systems expanded significantly during the reign of Louis XIV, in large part due to the administrative demands of waging major wars in multiple theaters. Weberian theories of bureaucracy have often taken Louis XIV's state as a key example of state centralization, but new information studies reveal the complexities and ambiguities of information management and "seeing like a state" in the early modern period.<sup>159</sup> Thierry Sarmant and Mathieu Stoll refer to the massive French ministerial correspondence as "a kingdom of paper."<sup>160</sup> Robert Fulton analyzes "the methods of document collection, classification, preservation, and destruction through which royal administrators transformed the *Dépôt de la Guerre* from a ministerial archive into a state archive and a 'monument.'"<sup>161</sup> John C. Rule and Ben S. Trotter argue that a mature information state emerged in the latter stages of Louis XIV's reign, managed by Jean-Baptiste Colbert de Torcy, the *secrétaire d'état* who led the sprawling Department of Foreign Affairs from 1696-1715. "War and diplomacy were both managed increasingly in what is classically described as a bureaucratic fashion, and France's *roi-bureaucrate* Louis XIV presided over an administration that became the model for much of Europe."<sup>162</sup> New studies of information management and bureaucracy do not emphasize Weberian models of centralization and control, but instead compartmentalization across multiple institutions and friction among information actors.

The *grands* (great nobles) continued to play vital roles in Louis XIV's armies, serving as army commanders and high-ranking military officers. Members of the *noblesse seconde* (provincial nobles) dominated military offices in the royal standing army, forming a nascent officer corps. Jay M. Smith stresses the creation of a culture of merit in royal service, while Guy Rowlands underlines the importance of military patronage for the colonels and captains who managed the "business of a regiment" during military campaigns.<sup>163</sup> Hervé Drévillon trac-

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Montreal: McGill-Queen's University Press, 2020, 2.

159 Filippo de Vivo, *Information and Communication in Venice: Rethinking Early Modern Politics*, Oxford: Oxford University Press, 2007; Randolph C. Head, *Making Archives in Early Modern Europe: Proof, Information, and Political Record-Keeping, 1400-1700*, Cambridge: Cambridge University Press, 2019; James C. Scott, *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed*, New Haven, CT: Yale University Press, 1998.

160 Sarmant and Stoll, *Régner et gouverner*, 355-398.

161 Robert Fulton, "Crafting a Site of State Information Management: The French Case of the *Dépôt de la Guerre*," *French Historical Studies* 40:2 (April 2017): 215-240.

162 Rule and Trotter, *A World of Paper*, 14.

163 Jay M. Smith, *The Culture of Merit: Nobility, Royal Service, and the Making of Absolute*

es the development of the ideas of a *métier des armes* (profession of arms) and a culture of service among French military officers.<sup>164</sup> Other recent works examine army commanders and their direction of military operations. Bertrand Fonck scrutinizes the career of François-Henri de Montmorency-Bouteville, maréchal de Luxembourg, who became an important army commander in the 1690s.<sup>165</sup> Fadi El Hage constructs a collective portrait of the *maréchaux de France* who led field armies on campaign.<sup>166</sup>

The art of siege warfare arguably acquired new levels of scientific precision during the Nine Years' War. John Lynn's analysis of French bastioned fortifications and siege warfare stresses the importance of defensive artillery and interlocking fields of fire. Lynn finds that the concept of an "artillery fortress" brimming with defensive cannons explains the crucial developments in defense better than the geometrical design of a *trace italienne*.<sup>167</sup> Sébastien Le Prestre, marquis de Vauban (1633-1707), constructed or reinforced numerous bastioned artillery fortifications along France's frontiers using a variety of innovative designs. The celebrated line of bastioned fortifications along the northeast frontier facing the Spanish Netherlands became known as the *ceinture de fer* (iron belt). Vauban advocated for rationalized defensible frontiers, which could be achieved by squaring off and straightening fortification lines to create what he called a *pré carré* (squared off field). This process also included the demolition of numerous older fortifications that were considered outdated and vulnerable.<sup>168</sup> Michael Wolfe argues that "changes after 1650 opened up a new distinctive phase of urban development that eventually ushered in the modern city in France." Wolfe describes the changing conceptual approaches to defense in France as "opening towns, closing frontiers."<sup>169</sup> These defensive measures transformed urban plan-

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*Monarchy in France, 1600-1789*, Ann Arbor, MI: University of Michigan Press, 1996; Guy Rowlands, *The Dynastic State and Army under Louis XIV: Royal Service and Private Interest, 1661-1701*, Cambridge: Cambridge University Press, 2002, 200-231.

164 Hervé Drévilion, *L'impôt du sang. Le métier des armes sous Louis XIV*. Paris: Éditions Talandier, 2005.

165 Bertrand Fonck, *Le maréchal de Luxembourg et le commandement des armées sous Louis XIV*, Seyssel: Champ Vallon, 2014.

166 Fadi El Hage, *Histoire des maréchaux de France à l'époque moderne*, Paris: Nouveau monde éditions, 2012.

167 John A. Lynn, "The *trace italienne* and the Growth of Armies: The French Case," in *The Military Revolution Debate*, 169-199.

168 Nicolas Faucherre, *Places fortes. Bastion du pouvoir*, Paris: Rempart, 2000; Lynn, *Giant of the Grand Siècle*, 561-567.

169 Michael Wolfe, *Walled Towns and the Shaping of France: From the Medieval to the Early*





Fig. 8 Nicolas Langlois, *Almanach pour l'an de bissexe 1692 : la prise de Mons, capitale du Hainaut 1691*, Recueil; *Oeuvre de Nicolas Langlois*, 1692, Bibliothèque nationale de France, Estampes, AA-5 (Langlois, Nicolas), IFF 119.

ning and civic culture by the end of the Nine Years' War in 1697.

Europe barely saw peace, however, since coalition warfare against Louis XIV's France quickly resumed. The War of Spanish Succession (1701-1714) broke out following the death of Carlos II (r. 1665-1700) of Spain, who left his entire inheritance to Philippe de Bourbon (1683-1746), duc d'Anjou, Louis XIV's grandson. Bourbon France and Spain faced a large coalition of European states that were utterly opposed to accepting Bourbon dynastic control of Spain. The War of Spanish Succession may have prompted new methods of negotiating military alliances and organizing coalition warfare. Studies of British, Dutch, Imperial, and Prussian armies suggest that Louis XIV's enemies were able to conduct joint military operations as a stable alliance.<sup>170</sup> Jamel Ostwald casts doubt upon conventional interpretations of the battle of Ramillies (May 1706) as a "decisive" victory for John Churchill, Duke of Marlborough.<sup>171</sup>

The practices of siege warfare arguably became more formalized during the war of Spanish Succession. Vauban's *Traité de l'attaque des places* (1704) sought to codify his approaches to conducting sieges. Jamel Ostwald argues that "Vauban's quest for the most efficient siege possible, rather than just his tactical innovations or codification of a set number of siege stages, embodies the systematizing legacy he sought to pass on to his students."<sup>172</sup> Jamel Ostwald demonstrates that the "honorable" surrender of fortress garrisons during the War of Spanish Succession were arranged through complex negotiations, whose terms were often debated and contested long after the garrison soldiers marched out in capitulation ceremonies.<sup>173</sup> French practices of military occupation became part of the strategy of positional warfare, as the seizures of Lorraine and Savoy during the Nine Years' War and again during the War of the Spanish

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*Modern Era*, New York, NY: Palgrave Macmillan, 2009, 147-170.

170 Hochedlinger, *Austria's War of Emergence*, 174-193; Black, *European Warfare, 1660-1815*, 100-118; Linda Frey and Marsha Frey, *A Question of Empire: Leopold I and the War of Spanish Succession, 1701-1705*, Boulder, CO: East European Monographs, 1983; David Chandler, *The Art of War in the Age of Marlborough*, New York, NY: Hippocrene, 1976.

171 Jamel Ostwald, "The 'Decisive' Battle of Ramillies, 1706: Prerequisites for Decisiveness in Early Modern Warfare," *Journal of Military History* 64:3 (July 2000): 649-677.

172 Jamel Ostwald, *Vauban under Siege: Engineering Efficiency and Martial Vigor in the War of the Spanish Succession*, Leiden: Brill, 2007, 50.

173 Jamel Ostwald, "More Honored in the Breach? Representations of Honor in Louisquatorizian Sieges," in *The World of the Siege: Representations of Early Modern Positional Warfare*, ed. Anke Fischer-Kattner and Jamel Ostwald, Leiden: Brill, 2019, 85-125.

Succession show.<sup>174</sup>

Even as French armies defended the kingdom's frontiers, the monarchy and its military system faced internal enemies. A peasant revolt by underground Calvinist believers in the Cévennes mountains of southern France produced a protracted guerrilla war, known as the Camisard War (1702-1710). Peasant bands inspired by prophets engaged in localized attacks on royal officers and Catholic clergy. Provincial administrators and royal troops responded with brutal violence, but they struggled to suppress the Camisard movement. Louis XIV finally sent Claude Louis Hector de Villars (1653-1734), a *maréchal de France*, to Languedoc to re-establish order through negotiation. W. Greg Monahan's recent study of the Camisard War emphasizes that "for the royal government, its importance lay entirely in the diversion of resources it required from the 'real' war being waged in the rest of Europe."<sup>175</sup>

The mounting costs of war, crop shortages, and famine produced a desperate crisis in France during the winter of 1708-1709, as the monarchy's war effort seemed on the verge of collapse. However, the bloody battle of Malplaquet in 1709 arguably weakened the Anglo-Dutch forces' ability to carry out major offensives against France. French strategy increasingly focused on positional warfare and fortified lines. During 1711, French military engineers built an extensive series of interlocked fortifications, named the *Ne Plus Ultra Lines*, but the Duke of Marlborough's forces broke through the lines and briefly threatened northern France. Meanwhile, French and Spanish colonial forces played a largely defensive role as an aging Louis XIV prioritized the war effort within Europe. James Pritchard argues that "the Treaty of Utrecht dealt any French dream of empire a serious blow from which it never recovered. ... French possessions in the New World remained as before, separate colonies in an uncertain empire."<sup>176</sup> The Peace of Utrecht (1713) and related negotiations finally brought an end to the War of Spanish Succession in 1714. Europe seemingly achieved peace by exhaustion and Louis XIV died the following year.

174 Phil McCluskey, *Absolute Monarchy on the Frontiers: Louis XIV's Military Occupations of Lorraine and Savoy*, Manchester: Manchester University Press, 2013.

175 W. Gregory Monahan, *Let God Arise: The War and Rebellion of the Camisards*, Oxford: Oxford University Press, 2014, 253.

176 James Pritchard, *In Search of Empire: The French in the Americas, 1670-1730*, Cambridge: Cambridge University Press, 2004, 401.

## Conclusion

Early modern French experiences of war reveal the strengths and weaknesses of the Military Revolution concept. France was almost constantly at war during the period associated with the Military Revolution, offering ample evidence of all the different facets of the changing face of warfare in the sixteenth and seventeenth centuries. Historians have identified numerous transformations in the practices and organization of warfare, but they often emphasize different aspects of military systems and their engagement in conflicts. No scholarly consensus has emerged regarding the revolutionary or evolutionary nature of the military changes and their relationship to war finance and state development.

If the Military Revolution Debate remains unsettled, it is in large part due to the emergence of new research questions and historical concerns. World history approaches have rejected the Rise of the West narrative and Eurocentric approaches to history that influenced the Military Revolution concept. New studies of early modern empires, slavery, colonial war, and maritime warfare have provoked very different debates on the problem of violence and its restraint.<sup>177</sup> Tonio Andrade's *The Gunpower Age* provides a comparative analysis of the Gunpowder Revolution Europe and China during the medieval and early modern periods.<sup>178</sup> Early modern warfare is increasingly seen as associated with diverse forms of violence.<sup>179</sup> The French empire is increasingly considered within this global history of early modern warfare and World history methodologies have transformed historical writing in France.<sup>180</sup>

Global perspectives have effectively de-centered the royal state, modifying our understandings of early modern France and its engagement in warfare. Questioning the interlinked narratives of the rise of absolutism, state develop-

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177 Philip Dwyer, "Violence and its Histories: Meanings, Methods, Problems," *History and Theory*, Special Issue: Theorizing Histories of Violence, 56/4 (2017), 7–22; Jonathan Davies, ed., *Aspects of Violence in Early Modern Europe*, Farnham: Ashgate, 2013; Gregory, Hanlon, "The Decline of Violence in the West: From Cultural to Post-cultural History," *English Historical Review* 128 (2013), 367–400; Stuart Carroll, ed., *Cultures of Violence: Interpersonal Violence in Historical Perspective*, Basingstoke: Palgrave Macmillan, 2007; Julius R. Ruff, *Violence in Early Modern Europe 1500-1800*, Cambridge: Cambridge University Press, 2001.

178 Tonio Andrade, *The Gunpowder Age: China, Military Innovation, and the Rise of the West in World History*, Princeton, NJ: Princeton University Press, 2016.

179 Erica Charters, Marie Houellemeare, and Peter H. Wilson, eds., *A Global History of Early Modern Violence*, Manchester: Manchester University Press, 2020; Brian Sandberg, *War and Conflict in the Early Modern World, 1500-1700*, Cambridge: Polity Press, 2016.

180 Patrick Boucheron, ed., *Histoire mondiale de la France*, Paris: Seuil, 2017.



ment, and modernization reveals the significance of non-state actors such as nobles, military entrepreneurs, mercenaries, and militias in early modern warfare. France's diplomatic relationships with small states and diverse political actors across Europe become visible. Although the French monarchy engaged in many major international wars, French forces also fought in religious wars, civil wars, urban revolts, peasant wars, and raiding campaigns. Foreign wars and civil conflicts alike strained the French economy, imposing enormous burdens that affected French urban and rural communities.

Warfare shaped the everyday lives of French people during the long wars of the sixteenth and seventeenth centuries. Studies of the social and cultural dimensions of early modern warfare go well beyond the concerns of the Military Revolution Debate, exploring the lives of military officers, soldiers, and civilians who confronted war. Young nobles who trained in military academies, bodyguard companies, and cavalry companies developed their own military culture associated with personal violence and dueling. The creation of permanent armed forces encouraged the professionalization of military officers, creating a culture of command and distinct career trajectories. Increasing numbers of ordinary soldiers lived in barracks within garrison towns, which altered civil-military relations. Urban residents in war zones often experienced blockades and sieges. Religious conflicts and civil wars divided communities across France, sometimes producing armed riots in city streets. Print culture brought war to civilians through political pamphlets, almanachs, and broadsides that communicated war news that gradually developed a French public sphere.

Finally, new historical approaches are transforming our understandings of the experiences of war in the early modern world, opening up new avenues of research. Cultural historians have reconsidered the intellectual framework of military professionalism, martial sociability, patriotism, and nationalism in early modern France<sup>181</sup>. Historians of women, gender, and sexuality have considered cross-dressing soldiers, camp followers, noblewomen in war, gendered martial cultures, and sexual violence.<sup>182</sup> New research in violence and trauma

181 Christy Pichichero, *The Military Enlightenment: War and Culture in the French Empire from Louis XIV to Napoleon*. Ithaca: Cornell University Press, 2017. Rafe Blaufarb, *The French Army, 1750–1820: Careers, Talent, Merit*. Manchester: Manchester University Press, 2002.

182 Caroline zum Kolk and Kathleen Wilson-Chevalier, eds., *Femmes à la cour de France. Charges et fonctions (XVe–XIXe siècle)*, Villeneuve d'Ascq: Presses Universitaires du Septentrion, 2018; Julie Hardwick, *Practice of Patriarchy: Gender and the Politics of Household Authority in Early Modern France*, University Park, PA: Pennsylvania State University Press, 2010; Sophie Vergnes, *Les Fondeuses. Une révolte au féminin (1643–1661)*, Seyssel: Champ Vallon,



studies considers atrocities and massacres, as well as the plight of civilians and refugees.<sup>183</sup> Early modern maritime and colonial warfare swept up civilians in brutal forms of captivity and slavery, shaped by emerging racial ideologies.<sup>184</sup> Environmental historians have considered the impact of war on communities and ecosystems. Studies of the Little Ice Age, climate change, and environmental history have reframed perspectives on early modern war and society. Geoffrey Parker's own contribution to this debate, *Global Crisis: War, Climate Change and Catastrophe in the Seventeenth Century*, has perhaps now superseded the earlier *The Military Revolution*.<sup>185</sup> It seems fitting that that one of the main proponents of the Military Revolution thesis is now stimulating new debates about the connections between climate change and warfare in the early modern world. Early modern French people recorded their experiences of war, famine, and disease in letters, journals, memoirs, chronicles, and administrative records. Their perspectives still offer us some of the best sources for interpreting early modern warfare, whether or not we accept the Military Revolution.

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2013; John A. Lynn II, *Women, Armies, and Warfare in Early Modern Europe*, Cambridge: Cambridge University Press, 2008.

183 Judith Pollmann, *Memory in Early Modern Europe, 1500-1800*, Oxford: Oxford University Press, 2017; Susan Broomhall and Sarah Finn, eds., *Violence and Emotions in Early Modern Europe*, London: Routledge, 2015; Kathleen Long, "'Child in the Water': The Spectacle of Violence in Théodore Agrippa d'Aubigné's *Les Tragiques*," *Dalhousie French Studies* 81 (2007): 155-65.

184 Jean-Frédéric Schaub and Silvia Sebastiani, *Race et histoire dans les sociétés occidentales (XVe-XVIIIe siècle)*, Paris: Albin Michel, 2021; Brian Sandberg, "'Moors Must Not be Taken for Black': Race and Cultural Translation across the Early Modern French Mediterranean," *Mediterranean Studies* 29, no. 2 (2021): 182-212; Jean-Frédéric Schaub, *Pour une histoire politique de la race*, Paris: Seuil, 2015; Michael Wintroub, *A Savage Mirror: Power, Identity, and Knowledge in Early Modern France*, Stanford, CA: Stanford University Press, 2006.

185 Geoffrey Parker, *Global Crisis: Climate Change and Catastrophe in the Seventeenth Century*, New Haven, CT: Yale University Press, 2013.

# Spain and the Military Revolution

By CHRISTOPHER STORRS

**ABSTRACT:** This article seeks to explore the extent to which Spain's experience in the early modern era fits in with the debated concept/s of the Military Revolution. More specifically and narrowly it engages with certain arguments made by I.A.A. Thompson regarding Spain's relation to that Military Revolution. The article emphasizes that the subject is not merely Spain but the Spanish Monarchy, argues for some other distinctive features of Spain's experience, suggests that there is still reason to distinguish between Habsburg and Bourbon Spain and concludes by suggesting that Spain's distinctive makeup and experience may offer useful new directions for the debate to take in the future

**KEYWORDS:** SPAIN, COMPOSITE STATE, SPANISH MONARCHY, TERCIOS, GRANADA, ROCROI, RESILIENCE

## *Introduction*

Spain, given its remarkable career as a major – on occasion near hegemonic – European and imperial global power in the early modern period, arguably the only European power with anything like a grand strategy for much of that period,<sup>1</sup> is an obvious candidate for assessment of the value of any broad theory which seeks to explain the changing ways of war and the domestic consequences of those changes across the whole of that era – as the theory of the Military Revolution seeks to do. And yet, Spain hardly figured in Michael Roberts' original formulation of the Military Revolution, unless as its victim: the tactical revolution was initially, according to Roberts, a defensive measure devised by Maurice of Nassau in the first phase of the so-called Dutch Revolt, or Eighty Years War (1568-1648) against Spain, contributing to the long-term rebel success, and was subsequently in the Thirty Years War in Germany perfected in a more offensive iteration by the real hero of Roberts' Military Revolution, king Gustavus Adolphus of Sweden, in his operations against the Austrian and Spanish Habsburgs. Subsequently, that whole process, from defensive to offensive transformation of the way of war at Spain's expense was thought by many

1 In the 1580s Philip II was being urged from the Spanish Philippines to attempt the conquest of China, Geoffrey Parker, *The Grand Strategy of Philip II*, Yale UP, New Haven, 1998, p. 8.

to culminate in what has long been regarded as one of the turning points in European history; an individual battle, the defeat of Spain's Army of Flanders by French forces at Rocroi in northern France in May 1643, while having limited negative immediate strategic consequences,<sup>2</sup> subsequently – following further defeats – acquired an enormous symbolic power, marking for many later commentators the end of a period of Spanish hegemony in Europe dating from the peace of Cateau Cambrésis (1559).<sup>3</sup> Within twenty years of Rocroi, the peace of the Pyrenees (1659) appeared to signal the decline of Spain, and the beginning of French hegemony.<sup>4</sup>

But an interpretative framework which relegated Spain to such a minor, passive role before 1660 could not be sustained. A sense that Roberts' Military Revolution seriously understated the Spanish performance – and that it ignored other, more important developments in how war was waged in the early modern period – led Geoffrey Parker to argue in the 1970s that Spain was in fact a leading exponent of a rather different Military Revolution. Unfortunately for those hoping to keep Spain at the centre of the developing debate, Parker's subsequent elaboration of his own contribution to the discussion from the later 1980s shifted the focus towards the global implications of the Military Revolution. Spain has not been wholly lost sight of in the continuing debate,<sup>5</sup> but is largely absent for example from the important collection of conference papers on warfare in the late middle ages and early modern era edited by Frank Tallett and David Trim,<sup>6</sup> and from David Parrott's more direct and fundamental assault on the very concept of the Military Revolution.<sup>7</sup>

2 William S. Maltby, *The Rise and Fall of the Spanish Empire*, Palgrave, Basingstoke, 2009, p. 13-9.

3 Jonathan I. Israel, 'Olivares, the Cardinal-Infante and Spain's strategy in the Low Countries (1635-1643): the road to Rocroi', in Richard L. Kagan and Geoffrey Parker (eds), *Spain, Europe and the Atlantic World: Essays in honour of John H. Elliott*, CUP, Cambridge, 1995, pp. 267-95; Fernando González de León, *The Road to Rocroi: Class, Culture, and Command in the Spanish Army of Flanders, 1567-1659*, Leiden, Brill, 2009.

4 Henri Hauser, *La Prépondérance Espagnole*, Presses Universitaires de France, Paris, 1948.

5 Fernando González de León, 'Spanish Military Power and the Military Revolution', in Geoff Mortimer (ed), *Early Modern Military History, 1450-1815*, Macmillan, New York, 2004, pp. 25-42.

6 Frank Tallett and David Trim, eds, *European Warfare 1350-1750* (CUP, Cambridge, 2010).

7 David Parrott, *The Business of War. Military Enterprise and Military Revolution in Early Modern Europe*, CUP, Cambridge, 2012; David Parrot, 'Revolución militar o devolución militar? Cambio y continuidad en la edad moderna militar', *Studia historica. Historia moderna*, 35 (2013), pp. 33-59.

The earlier neglect of Spain by Michael Roberts is the more surprising given that there exist ample materials whereby to explore Spain's place in early modern warfare in many archives in Spain itself – above all those of the secretariat of war and its eighteenth century successors the secretariat of war and that of the navy, in the Archivo General at Simancas, and for the war in and across the Atlantic (and in the East Indies) those of the council of the Indies in Seville. But Roberts, a historian primarily of Sweden, could be forgiven his neglect and relegation of Spain in view of the relatively limited secondary material available, even in Spanish, much of it quite old,<sup>8</sup> and much of it feeding into the prevailing narrative, inside and outside Spain, of the country's short rise and long decline; this remarkably enduring metanarrative<sup>9</sup> is informed outside Spain by what Richard Kagan terms "Prescott's Paradigm", a negative view of Spain, its culture and its past associated with the work of the nineteenth century American historian of Spain, W.H. Prescott.<sup>10</sup>

Such neglect would not be justifiable today, in part because of the continued response in the last half century and more to the challenge thrown down by Roberts. Since 1960, and at an accelerating pace in recent decades, Spanish and non-Spanish historians of early modern Spain have transformed our knowledge and understanding of the experience of Spain and its armies in the context of the Military Revolution, or as some prefer to call it the "new military history". Not long after Henry Kamen dismissed the notion that there were changes in the ways of war sufficient to merit the label Military Revolution in his broad study of Spain's rise to global dominion between the late fifteenth and early eighteenth centuries,<sup>11</sup> much of that work was showcased in a remarkably wide-ranging conference on the military experience of Habsburg Spain in Madrid in 2005, Jeremy Black's keynote address directly relating that experience to the Military

8 Cf Serafin María de Sotto, conde de Clonard, *Historia Orgánica de las Armas de infantería y Caballería Españolas*, 16 vols. (Madrid, 1851-59), Despite its age, this well-founded study remains invaluable.

9 I. A.A. Thompson, *War and Government in Habsburg Spain 1560-1620*, Athlone Press, London, 1976, published in Spain as *Guerra y decadencia: gobierno y administración en la España de los Austrias*, Critica, Barcelona, 1981; Maltby, cit. p. 13-19.

10 Richard L. Kagan, 'Prescott's Paradigm: American Historical Scholarship and the Decline of Spain', *American Historical Review*, 101, 2, (1996), pp. 423-446

11 Henry Kamen, *Spain's Road to Empire. The Making of a World Power 1492-1763*, Allen Lane, London, 2002, p. 28, cited in I.A.A. Thompson, 'Preface: Spain in the Military Revolution Debate', in I.A.A. Thompson, *The Military Revolution and the Trajectory of Spain: War, State, and Society 1500-1700. Ten Studies* (no place, 2020), p. 5.

Revolution.<sup>12</sup> The conference was testimony to what one leading historian of the Spanish armed forces in the later seventeenth and eighteenth centuries, Francisco Andújar Castillo has called a revolution in the historiography of armies and war in early modern Spain, an entirely justifiable reaction to not only the enormous advance of our knowledge and understanding of the Spanish early modern military experience in the last generation but also to the fact that so much of the advance was due to the efforts of Spaniards,<sup>13</sup> rather than to those of foreign historians, people like the late J.H. Elliott, who so shaped perceptions of “Imperial Spain” from the 1960s, inside and outside Spain. This historiographical revolution has many foundations including the support of a Spanish Ministry of Defence which has funded the publication not only of important monographs,<sup>14</sup> but also of military treatises of the sixteenth to eighteenth centuries.<sup>15</sup>

Some of these Spanish historiographical revolutionaries are at great pains to rebut some of the assumptions about Spain’s supposed backwardness at least implicit in the Military Revolution thesis and still part of what we might call its legacy.<sup>16</sup> But they are not alone in challenging aspects of the relationship between Spain and the Military Revolution. “Spain” declares I.A.A. Thompson, one of the foreign historians who has continued to shape our understanding of early modern Spain, “has been largely ignored in the Military Revolution debate”.<sup>17</sup> This remarkable claim looks on the face of it – given the flood of studies of Spain’s military experience just noted – perverse, certainly a challenge. So, what are Thompson’s grounds for this assertion? Firstly, he distinguishes between Spain and the broader Monarchy – the Italian territories (Naples, Sicily,

12 Jeremy Black, ‘Military Revolutions and Early Modern Europe: The Case of Spain’, in Enrique García Hernán and Davide Maffi (eds), *Guerra y Sociedad*, cit, 1, pp. 17-30. Cf. Lorraine White, ‘Guerra y revolución militar en la Iberia del siglo XVII’, *Manuscripts*, 21, 1, (2003), pp. 63-93

13 Francisco Andújar Castillo, review of Enrique Martínez Ruiz, *Los soldados del rey. Los ejércitos de la Monarquía Hispánica (1480-1700)*, Actas, Madrid, 2008, in *Anuario de Historia del Derecho Español*, 80 (2010), pp. 906-11. See also Luis Ribot, ‘Introducción’, in Luis Ribot (ed), *Historia Militar de España, part III Edad Moderna*, vol 2, Madrid, 2013, pp. 19-20

14 Antonio Espino López, *Guerra y Cultura en la Epoca Moderna. La tratadística militar hispánica de los siglos XVI y XVII: libros, autores y lectores*, Ministerio de Defensa, Madrid, 2001.

15 For example, Marqués de Aytona, *Discurso militar* [originally published in Valencia in 1653], ed. Eduardo de Mesa Gallego, Ministerio de Defensa, Madrid, 2008.

16 Eduardo De Mesa, *The Irish in the Spanish Armies in the Seventeenth Century*, Boydell, Woodbridge, 2014.

17 Thompson, ‘Preface’, cit. p. 6.



Sardinia, Milan and the so-called Tuscan presidios or garrisons), the provinces in the Low Countries, what contemporaries and later historians have called, using a simple shorthand, Flanders, the north African garrisons (Ceuta, Oran, Melilla and so on), the extensive American territories across the Atlantic, and last but not least the Philippines. But there is more to Thompson's case than just his narrow preoccupation with metropolitan Spain (in reality with Castile?), about which more below. According to Thompson, in the unravelling of Roberts' original formulation, the idea of the Military Revolution has been "captured" by military historians, Thompson having in mind those primarily interested in how battles, campaigns and wars were fought, won and lost, i.e. an arguably rather myopic concern with combat, tactics and technology rather than with the bigger picture which was at least implicit in Roberts' initial formulation, and to which Thompson - surely rightly - recalls us. Kamen's dismissal of the Military Revolution in a Spanish context reflects, thinks Thompson, a broader failure of non-Spanish historians, including the present writer,<sup>18</sup> and - paradoxically - Black in his 2005 address, to properly draw on the remarkable body of work published by Spanish historians in the last half century. This is important because according to Thompson "Spain can be regarded in many ways as the touchstone of the connection between the Military Revolution and the Early-Modern State and - in what might be thought a narrowing of the focus and scope of Thompson's own contribution to the debate, ignoring his own strictures against those he sees as failing to acknowledge or embrace the full breadth of Roberts' original vision, "If the Military Revolution did not promote the permanent establishment of a powerful, centralised state in Spain, then the whole argument linking war and state development must be fundamentally weakened".<sup>19</sup> What follows should be thought of as in part a dialogue with and response to Thompson. That dialogue will comprise two very unequal parts; the first covers the two centuries of the Habsburg era (1516-1700), which roughly aligns with Roberts' Military Revolution (and that of Parker), the second sits better with Jeremy Black's rather different version of the Military Revolution treating separately the Bourbon eighteenth century, which was only hinted at or implied in those earlier iterations of the Military Revolution.

But before continuing we need to more clearly define our subject. When we talk of Spain, we are using a rather artificial expression. "Spain" did not exist, nor did the "Spanish" empire, except perhaps in the perceptions of those out-

18 Christopher Storrs, *The Resilience of the Spanish Monarchy 1665-1700*, OUP, Oxford, 2006.

19 Thompson, 'Preface', cit, p. 6

side the Iberian peninsular, including those on the receiving end of “Spanish” military might. Spain was instead a “composite” state or “Monarchy”,<sup>20</sup> or as it is now increasingly described a “polycentric” Spanish polity,<sup>21</sup> although the latter term may exaggerate the extent of autonomy of the various parts of the Monarchy or empire and understate the extent to which policy and strategy were overseen and determined – and local initiative approved (or not) by the king in Castile, advised by his council of state. Spain, then – here we have one major complication – was not like most of the other states the Military Revolution deals with, unless one wants to argue that England, France and various other states were also “composite” or “polycentric” – and was arguably more like the empire of the Ottoman Turks, another global power at the opposite end of the Mediterranean. Indeed, when we discuss Spain we are also talking about far more than Spain, instead we include much of Italy, of the Low Countries, of the Americas, at one stage of Portugal, and so on. Having said that, the heart of the polity was in most respects Castile (itself arguably “composite” and/or polycentric) and what follows will reflect that reality. Various things follow from this. Thompson cannot simply restrict his vision to Spain. After the conclusion of the Granada war in 1492, Spain was spared war within the peninsula – apart from the conquest of Navarre in 1512/ 1521 and that of Portugal in 1580-1, until 1635/ 1640, after which, until 1700 Catalonia and to a lesser extent Navarre on the mainland were frequently theatres of war in recurrent wars against France. But that did not mean monarch and ministers were spared the worry of war; the concern on this score was almost constant. This was not least because they were fighting almost endless wars throughout the period, in Flanders, north Italy, the Mediterranean, the Caribbean and elsewhere, in part in accordance with a strategic vision shaped by a domino theory of the defence of Spain itself.<sup>22</sup> Spain

20 John H. Elliott, ‘A Europe of Composite Monarchies’, *Past and Present*, 137, (1992), pp. 48-71; and in John H. Elliott, Spain, *Europe and the Wider World*, Yale UP, New Haven, 2009, pp. 3-24; Irving A.A. Thompson, ‘La Monarquía de España’: la invención de un concepto’, in Francisco J. Guillamón Álvarez, Domingo Centenero de Arce, and Julio D. Muñoz Rodríguez (eds), *Entre Clío y Casandra; poder y sociedad en la monarquía hispánica durante la Edad Moderna*, Universidad de Murcia, Murcia, 2005, pp. 31-58.

21 Pedro Cardim, Tamar Herzog, José Javier Ruiz Ibáñez, and Gaetano Sabatini, *Polycentric Monarchies: How did Early Modern Spain and Portugal Achieve and Maintain a Global Hegemony?* Sussex Academic Press, Eastbourne, 2012; José Javier Ruiz Ibáñez and Jean-Frédéric Schaub, ‘Les acteurs de l’hégémonie hispanique, du monde à la péninsule Ibérique’, *Annales. Histoire, Sciences Sociales*, 69e Année, (2014), pp. 927-954

22 Geoffrey Parker, *The Army of Flanders and the Spanish Road, 1567-1659. The Logistics of Spanish Victory and Defeat in the Low Countries Wars* (CUP, Cambridge, 1974; 2<sup>nd</sup> ed. 2004) p. 109-11.

in effect meant far more than Spain. One further consequence of this was that Spanish armies comprised large numbers of non-Spaniards, not mercenaries although these were certainly present, as they were in the armies of other princes and states,<sup>23</sup> but those subjects of Charles V, Philip II, Philip III, Philip IV and Carlos II who were Neapolitans, Sicilians, Milanese and so on, natives of all these territories being found in the Spanish king's armies alongside those from Castile and other parts of Spain. The total number of men in Spain's armies comprised forces distributed across the Monarchy – overwhelmingly in Europe.<sup>24</sup> Individual units comprised men from all parts of that Monarchy.<sup>25</sup> Thus, while Naples and Sicily were – like Spain itself – relatively free of war on their soil between 1500 and 1700 – in contrast with the experience of Flanders and Milan – their role as suppliers of men for those other theatres brought them within the scope of the whole Military Revolution insofar as it can be identified in the era of the Spanish Habsburgs. Much of the archival record of the experience of the Military Revolution of those non-Spanish subjects and territories is to be found in Spain and cannot be fully recovered without reference to that Spanish record. Similarly, the Spanish work already referred to often fills the gap where the states/ territories concerned have not generated their own historiography on the Military Revolution; where they have, it almost invariably – and inevitably – touches on Spain's experience.<sup>26</sup> Finally, we need to be clear about just what we mean by the Military Revolution, which has become many different things to many different people, cherry picked according to preference. (For Michael

23 For German and Swiss mercenaries in the Army of Lombardy in the reign of Philip IV, cf Davide Maffi, *Il Baluardo della Corona. Guerra, esercito, finanze e società nella Lombardia seicentesca (1630-1660)*, Le Monnier, Firenze, 2007, pp. 146-49

24 For the size of the various armies (of Flanders, Lombardy, Catalonia and Estremadura) of Philip IV 1636-61, cf Maffi, *Il Baluardo*, cit, p. 139; for the reign of Carlos II, cf Davide Maffi, *Los Últimos Tercios. El Ejército de Carlos II*, Desperta Ferro, Madrid, 2020, p. 160.

25 For the composition of the Army of Flanders from 1572 to 1661, cf Parker, *Army of Flanders*, cit, p. 231 (Appendix A), where Parker uses the generic term "Italians"; for that of Philip IV's forces, cf Davide Maffi, *En Defensa del Imperio. Los ejércitos de Felipe IV y la Guerra por la hegemonía europea (1635-1659)*, Actas, Madrid, pp. 318-211 and for the army of Milan more specifically, Maffi, *Il Baluardo*, cit, p. 144, where Lombards are distinguished from Neapolitans. For the armies of Carlos II, cf Maffi, *Últimos Tercios*, cit, p. 253 (Flanders), p. 254-55 (Lombardy), p. 256 (Catalonia) and p. 258 (the forces serving in Sicily in the war for Messina in the 1670s, where Maffi distinguishes Sicilians, Neapolitans, Milanese and Burgundians, i.e. inhabitants of Franche Comté (lost to Louis XIV during the so-called "Dutch War" of 1672-78).

26 Cf the essays in Helder Carvalhal, André Murteira, and Roger Lee de Jesus (eds), *The First World Empire. Portugal, War and Military Revolution*, Routledge, Abingdon and New York, 2021)

Braddick this “flexibility” is a factor in the longevity of the concept of the Military Revolution.<sup>27</sup>) There is something to be said for Thompson’s stricture about the debate having become too centred on the battlefield, losing sight of how Roberts understood the bigger picture and the longer view, with war – how it was fought, supplied and funded – underpinning for Roberts more fundamental long-term changes in Europe, ones which culminated in Roberts’ own world, hence the importance of formulating the thesis in the first place, just a decade after the conclusion in 1945 of the Second World War and in the middle of a Cold War which brought with it the threat of nuclear war and annihilation. But the published work that Thompson is able to draw on suggests that he is not entirely fair, that many of the contributors to the debate, in Spain as elsewhere, retain a more varied, complex and rich vision and understanding of the Military Revolution than he implies. In what follows, I seek to consider both the narrowly military aspects (whatever that means) of the Military Revolution and the bigger – political, economic, social and cultural – picture that the Military Revolution sought to identify and explain.

### *Spain’s armies and way of war c. 1475-1700*

Spain’s experience accords broadly with many of the key developments of the Military Revolution between 1500 and 1700 as framed by Roberts and Parker. Its army – or rather armies - expanded in size, it acquired a much more wide-ranging strategy and how its armies were armed and fought changed over time. But Spain’s experience cannot simply be forced into the existing framework, including the chronology of the Military Revolution. Spain – i.e. the kingdoms/ crowns of Castile and Aragon- was by no means negligible militarily in the later Middle Ages, Castile playing a secondary role in the Hundred Years War between England and France,<sup>28</sup> while the crown of Aragon had built up a Mediterranean empire which included Naples, Sicily and Sardinia. Some effort has been made to identify a gunpowder revolution in Spain before the 1480s.<sup>29</sup> But more important in terms of Spain’s participation in the Military Revolution

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27 Michael Braddick, ‘Review: An English Military Revolution?’, *The Historical Journal*, 36, 4 (1993), pp. 965-975

28 Jonathan Sumption, *The Hundred Years War*, Faber, 4 vols., London, 1990-2015.

29 Mario Lafuente Gómez, ‘Categorías de combatientes y su armamento en el Aragón bajomedieval: la guerra de los Dos Pedros (1356-1366)’, *Gladius*, 33, 2013, pp. 131-156; José Javier de Castro Fernández and Javier Mateo de Castro, ‘La artillería en el reino de Castilla y León durante el siglo XV’, *Gladius*, 38, (2018), pp. 99-124

- and its emergence as a European power - were the wars fought by Isabella of Castile and Ferdinand of Aragon, the "Catholic Kings", the last rulers in Spain of the house of Trastámara, between 1474 and 1516. They began with the Granada War (1482-92), their victory concluding the Christian reconquest of Muslim Spain.<sup>30</sup> The war, by no means the pushover of traditional accounts, was one primarily of sieges, in which the superiority of the Christian army's firepower, above all of its artillery, was decisive,<sup>31</sup> such that the conflict would support Parker's version of the Military Revolution. The war involved the mobilization of forces of various types, including the feudal host, foreign volunteers (crusaders), men supplied by the Castilian towns,<sup>32</sup> and by Spain's own crusading Military Orders (Alcantara, Calatrava and Santiago in Castile.) By the end of the war, the Catholic Kings' army totaled 60,000 and maybe even 80,000.<sup>33</sup> The conclusion of the war was followed by the creation of the first permanent force in Castile, the Guardas Viejas (1493) and the promulgation (1496) of new military Ordinances;<sup>34</sup> it also triggered the decline of the Military Orders; henceforth they would lose any real military identity, their resources swelling the patronage of the monarch as Grand Master and valued primarily as markers of social status.<sup>35</sup> Intervention in the Italian Wars (1494-1559) from 1495 brought further changes. Sieges were again important, but the very pragmatic Spanish commander Gonzalo de Córdoba also introduced important changes: a greater use of pikes, (little used in the Granada war) and crossbows being replaced by arquebuses.<sup>36</sup> Having secured southern Italy, the Spanish monarchs launched

30 Miguel Ángel Ladero Quesada, *La España de los Reyes Católicos*, Alianza, Madrid, 1999, pp. 383-85; John Edwards, *Ferdinand and Isabella*, Longman, Harlow, 2005, pp. 103-7; Cristina Borreguero Beltrán, 'El ejército del Rey', in Ribot, *Historia Militar*, cit, 2, pp. 119-153 (at 119-24).

31 Weston F. Cook, 'The Cannon Conquest of Nasrid Spain and the End of the Reconquista', *Journal of Military History*, 57, 1 (1993), pp. 43-70.

32 Paul Stewart, 'The Santa Hermandad and the first Italian Campaign of Gonzalo de Córdoba, 1495-8', *Renaissance Quarterly*, 28, 1 (1975), pp. 29-37

33 Cook, 'Cannon Conquest', cit, p. 47, 52

34 Michael Mallett, 'The Transformation of war, 1494-1530', in Christine Shaw, ed., *Italy and the European Powers. The Impact of War, 1500-1530*, Brill, Leiden, 2006, pp. 3-22.

35 L.P. Wright, 'The Military Orders in sixteenth and seventeenth century Spanish society', *Past and Present*, 43 (1969), pp. 34-70; Francisco Fernández Izquierdo, 'Las Órdenes de Caballería hispánicas y su proyección militar en los siglos XVI y XVII una aproximación a la Orden de Santiago', in García Hernán and Maffi, *Guerra y Sociedad*, cit, 2, pp. 861-84.

36 Antonio Jiménez Estrella, 'Don Gonzalo de Córdoba el genio militar y el nuevo arte de la guerra al servicio de los Reyes Católicos', *Chronica Nova*, 30 (2003-2004), pp. 191-211; Mallett, 'Transformation of War', cit, pp. 3-22



campaigns across the Straits into north Africa, in part to prevent any further muslim assaults on Spain, but limited themselves to the establishment of fortified garrisons on the southern shore of the Mediterranean (Melilla, Oran).<sup>37</sup> By the death of Ferdinand in 1516 the Catholic Kings had increased their forces and adopted a grand – or grander- strategy, one in which their forces, their arms “modernized”, were fighting on far more fronts than Castile or Aragon had separately fought hitherto, all of this done within a relatively “local” context, enriching by modifying and complicating the prevailing patterns and chronology of the Military Revolution.

It is with the grandson and heir of the Catholic Kings, Charles V, that Spain first became a truly European (and global, below) power. There was still no royal army: when the absent Charles faced the revolt of the Comuneros (1521) he relied on the forces of the Castilian nobles to suppress it. But Charles’ extensive inheritance facilitated the expansion of his forces – drawing subjects from many territories (above) - beyond anything the Ferdinand and Isabella could mobilise; but also necessitating an even grander strategy, with war on numerous fronts, some wholly new for Spain, notably Flanders. The victory of Charles V’s forces (and the capture of the French king, Francis I) at the battle of Pavia in 1525 was a measure of the astonishing transformation of Spain’s position compared to what it had been just fifty years earlier. These victories and others were in part the achievement of what would come to be considered the most distinctive Spanish contribution to the way war was fought in this period, the celebrated tercios, their organisation formally laid down in 1536. Thompson is surely right to suggest that the tercios unduly dominate – and distort our vision of the forces of the Spanish Habsburg armies,<sup>38</sup> some Spanish historians feeling obliged to point out that the persistence of the tercios was not a sign of a military machine stuck in the past and thus doomed. Indeed, not all units were designated tercios. In fact, over time the tercio, initially 12-25 companies totaling about 3,000 men, shrank in size, becoming more like armies elsewhere.<sup>39</sup> As for weapons, here too

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37 Juan Laborda Barceló, ‘Las campañas africanas de la Monarquía Hispánica en la primera mitad del siglo XVI. Vélez de la Gomera. Un nuevo tipo de guerra’, in García Hernán and Maffi, *Guerra y Sociedad*, cit, 1, pp. 103-20.

38 I.A.A. Thompson, ‘The Soldiers of Philip II: From the Tercio to the Levy’, in Thompson, *Military Revolution*, cit, pp. 89-112

39 Eduardo De Mesa Gallego, ‘Innovaciones militares en la Monarquía hispánica durante el siglo XVI origen y desarrollo’, in García Hernán, and Maffi, *Guerra y Sociedad* cit, 1, pp. 537-552; Eduardo De Mesa Gallego, *La pacificación de Flandés. Spínola y las campañas de Frisia (1604-1609)*, (Madrid, 2009); De Mesa Gallego, *Irish in the Spanish Armies*, cit. Cf. also Maffi, *Últimos Tercios*, cit, p. 161-62.

the Spanish forces were in line with developments elsewhere. The pikes adopted in Italy in the 1490s gave way to more firearms, a ratio of 75% firearms to pikes being achieved by the late seventeenth century - although the Spaniards tended to retain older types of firearm (however practice and adoption varied between Spain's different armies) - and were not slow to adopt the bayonet before 1700).<sup>40</sup> The infantry increased in size in the sixteenth century, and at the expense of the cavalry as a proportion of the total force, as elsewhere, but that shift was reversed in the seventeenth century, again reflecting trends elsewhere. The poor performance of the cavalry contributed to the defeat at Rocroi, but the numbers of the horse continued to grow both absolutely and relatively in Spain's two main fighting forces, the armies of Flanders and Lombardy.<sup>41</sup> As for the composition of Spain's armies, these, as has already been noted were never wholly - or even always predominantly - Spanish armies,<sup>42</sup> reflecting the fact that virtually all European states depended on varying proportions of foreigners, to swell their forces, but Spaniards were the most prized for a variety of reasons. In terms of strategy, Spain - again the idea of the empire or Monarchy needs to be kept in view - was arguably the power fighting on a wide number of fronts, hardly at all in Spain itself. The fact that Spain's main fighting units were outside the country, contributed another distinctive feature to our subject, communications: the *camino de Finale*, along which troops arriving by sea from Spain, Naples and Sicily marched from Liguria to Milan, the hub of Spanish Italy,<sup>43</sup> and the *camino de Flandes*, or Spanish Road along which they might - until it was closed in the late 1630s - reach the Low Countries. Spanish commanders pursued - and were ordered to pursue - a prudent campaign strategy, avoiding battle, with all the attendant risks, just like commanders in other armies; reluctance to engage was not peculiarly Spanish - or indicative of want of martial spirit. While most campaigns centred on sieges (in the Nine Years War, for example, Namur, 1692 and 1695 in Flanders, Casale, 1695 and Valenza, 1696, in north Italy, and Barcelona in Catalonia in 1697) the relative absence of conflict within the Iberian

40 Maffi, *Últimos Tercios*, cit., pp. 161-70.

41 Parker, *Army of Flanders*, cit., p. 16-27; Antonio José Rodríguez Hernández, 'La Caballería hispánica Un arma al alza', *Desperta Ferro. Especiales*, 19 (2019), pp. 44-48; Maffi, *Últimos Tercios*, cit., pp. 170-76.

42 Parker, *Army of Flanders*, cit., p. 231-32 (Appendix A); De Mesa Gallego, *Irish in the Spanish Armies*, cit.; Robert Stradling, 'Filling the Ranks: Spanish mercenary recruitment and the crisis of the 1640s', in Robert Stradling, *Spain's Struggle for Europe 1598-1668*, Hambledon, London, 1994, pp. 251-69.

43 Mario Rizzo, 'Centro spagnolo e periferia Lombarda nell'impero asburgico tra Cinque e Settecento', *Rivista Storica Italiana*, 104 (1992), pp. 315-48; Maffi, *Il Baluardo*, cit.

peninsula before the outbreak of open war with France from 1635 and of the Catalan and Portuguese revolts in 1640 ensured that there were few fortresses of the sort which according to Parker drove the Military Revolution and which certainly existed in Spanish Flanders and Spanish Italy<sup>44</sup>; more characteristic of both Spain and those of the Habsburgs' Italian territories which were vulnerable to coastal raids by Barbary corsairs and others looking inter alia for Christians to sell into slavery were simpler coastal towers. But there were some examples of the new fortifications in Spain itself, including in Navarre Pamplona, and in the Basque Country San Sebastian and Fuenterrabia.<sup>45</sup> They could also be found in the Spanish presidios in north Africa. War on the scale waged by Charles V and his successors mobilized remarkable numbers of men serving in garrisons and the field in Europe, north Africa and the Americas, perhaps reaching almost 160,000 in 1640 in the reign of Charles V's great grandson Philip IV.<sup>46</sup>

But that number could not be sustained in a situation in which Spain – the Monarchy – was short of men and money – overstretch. After 1659 Spain was arguably on the backfoot, inside and outside Europe, the chief victim and target of Louis XIV in a succession of wars between 1667 and 1697. The highest total of men under arms under Carlos II was about 80,000 men – comparable with the peak under the Catholic Kings but well below that in the reign of his father. This retreat makes clear that growth of armies was by no means linear; it also contradicts Jeremy Black's vision of the late seventeenth century as the period of the Military Revolution. The fact that Spain managed to survive – territorially – in the generation after 1659 is often attributed to the support of allies who had themselves experienced the Military Revolution. This prompts the observation that individual states – in this case Spain – might be indirect beneficiaries of the Military Revolution, and that diplomacy and the construction of alliances ought to be recognized as a factor in the escalation of the scale of war in and after the seventeenth century. At the same time however, we are now more aware than before of the extent to which Spain, while no longer hegemonic – nonetheless remained a key player in the wars of the latter part of the seventeenth century, in part simply because of the number of fronts on which it still operated – underpinned by an infrastructure of support devised in an earlier period – and where

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44 Franco Angiolini, 'I presidios di Toscana: catena de oro e llave y freno de Italia', in García Hernán and Maffi, *Guerra y Sociedad*, cit, 1, pp. 171-88.

45 Alfredo Floristán Imízcoz, A., *El reino de Navarra y la conformación política de España (1512-1841)*, Akal, Madrid, 2014, pp. 109-18.

46 Davide Maffi, 'Las guerras de los Austrias', in Ribot, *Historia Militar*, cit, vol 2, pp. 79-118; Maffi, *En Defensa del Imperio*, cit.

it could be a useful ally and at the least help distract the enemy. Few other powers could distribute 80,000 men across so many fronts, presenting Louis XIV with challenges as well as opportunities: in 1692, Spain contributed units of the Army of Lombardy forces to the allied army which that year mounted the only incursion into France during the Nine Years War. Spain's success in absorbing the pressure of the years after 1640 helps explain the War of the Spanish Succession triggered by Carlos II's death in 1700.<sup>47</sup>

### *Fleets and the war at sea 1500-1700*

Roberts' initial conceptualisation of the Military Revolution acknowledged the importance of changes in how war was waged at sea but paid it less attention than warfare on land.<sup>48</sup> Geoffrey Parker did go further, seeing warships emerging as floating fortresses/ gun platforms, the *trace italienne* on water, while others have expanded the discussion of seaborne conflict.<sup>49</sup> But some go further still, Thompson suggesting that the creation of permanent or standing fleets was more important than that of standing armies.<sup>50</sup> And yet the Military Revolution debate, even when taking greater account of the war at sea, has tended to neglect or simply dismiss Spain, until relatively recently.<sup>51</sup> This is surprising since Habsburg Spain was necessarily a maritime power. Castile and Aragon had both been powers at sea in a small way in the medieval era, seapower playing a small part in the defeat of Granada by 1492 and in intervention in Italy thereafter.<sup>52</sup> Already by 1516, a lengthy Mediterranean coastline, in Spain and Italy required mobile defences (galleys and ships) as well as fixed ones (towers, above) to protect vulnerable populations. The advent of the Habsburgs and expansion across the Atlantic and into the Pacific meant new challenges. The sea – or seas – divided the global Spanish Monarchy but might also unite it: as Don Juan de Austria informed his half-brother Philip II in 1572, “No prince in Christendom needs to have a great fleet more than does Your Majesty since it is the necessary means

47 Maffi, ‘Las guerras de los Austrias’, cit; Davide Maffi, *Últimos tercios*, cit.; Storrs, *Resilience*, cit.

48 Roberts, ‘Military Revolution’, cit.

49 Parker, *Military Revolution*, cit

50 I. A.A. Thompson, ‘The Galley in Sixteenth Century Spanish Mediterranean Warfare’, in Thompson, *Military Revolution*, cit, pp. 113-146 (at p. 113).

51 Jan Glete, *War and the State in Early Modern Europe. Spain, the Dutch Republic and Sweden as Fiscal-Military States*, Routledge, London, 2002.

52 Sumption, *Hundred Years War*, cit; John Edwards, *The Spain of the Catholic Kings 1474-1520*, Blackwell, Oxford, 2000, pp. 131-32

for uniting such divided possessions”.<sup>53</sup> Much the same view was articulated in the reign of Philip III and - no doubt – in those of his Habsburg (and Bourbon) successors.<sup>54</sup> Besides defending an extensive coastline, Spain needed ships to carry men, provisions and money, both within the Mediterranean (within Spain, from Spain to north Africa, from Spain to Italy and within Italy) and from Europe across the Atlantic. Spain also needed ships to defend the returning treasure fleets and when appropriate to take the fight to the enemy.

The naval revolution meant an expansion in the number, size, firepower and tonnage of ships- warships and in the Mediterranean war galleys – and a growing distinction between heavily armed fighting ships and other vessels. Spain shared in these developments. In Atlantic waters it not only developed the galleon but deployed this vessel in a sometimes bewildering number of short-lived units, whose ships were often deployed far from their intended base, including the Armada de Flandes,<sup>55</sup> the Armada de Barlovento and the Armada de la Guardia – these latter policing the Atlantic and Caribbean- and others.<sup>56</sup> It was the failure of the so-called “Armada” sent against England in 1588 - an enterprise which has generated (notably on the occasion of the 400<sup>th</sup> anniversary in 1988) an extensive literature, celebratory in Britain, more defensive and exculpatory in Spain<sup>57</sup> – which prompted the creation from 1590 of a permanent Atlantic high seas fleet, the so-called Armada del Mar Oceano.<sup>58</sup> Thompson has termed this development Spain’s “turn to the sea/ Atlantic”, in effect a strategic revolution.<sup>59</sup> The defeat of 1588 was certainly not the end of Spanish ambitions at sea, the 1620s witnessing ultimately abortive plans to establish a naval presence in the

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53 I.A.A. Thompson, ‘Navies and State Formation: The Case of Spain (1500-1800)’, in Thompson, *Military Revolution*, cit, p. 176.

54 Thompson, ‘The Galley’, cit, p. 133

55 Robert Stradling, *The Armada of Flanders. Spanish Maritime Policy and European War, 1568-1668*, CUP, Cambridge, 1992

56 Jan Glete, ‘The Sea Power of Habsburg Spain and the development of European Navies (1500-1700)’, in García Hernán and Maffi, *Guerra y Sociedad*, cit., 1, p. 833-60.

57 Maria José Rodríguez-Salgado, ‘Review: The Spanish Story of the 1588 Armada Reassessed’, *The Historical Journal*, 33, 2 (1990), pp. 461-478; José Luis Casado Soto, ‘Entre el Mediterráneo y el Atlántico los barcos de los Austrias’, in García Hernán and Maffi, *Guerra y sociedad*, cit, 1, 2006, pp. 861-890

58 David Goodman, *Spanish Naval Power, 1589-1665: Reconstruction and Defeat*, CUP, Cambridge, 1997, p. 8-9.

59 I.A.A. Thompson, ‘The Audit of War, and of Peace: Before Vervins and After’, in Thompson, *Military Revolution*, cit, pp. 45- (at p. 63)



Baltic as part of the ongoing war against the Dutch.<sup>60</sup> In the Mediterranean, which had long been a key area of concern - and remained one long after the Christian victory at Lepanto (1571) and the supposed shift to the Atlantic - Spain was able to deploy not only its own galley squadron but also those of its Italian territories - Naples, Sicily, Sardinia<sup>61</sup> - emphasizing again that the Spain which experienced the Military Revolution was - uniquely - more than Spain; the Armada del Mar Oceano - and Spain's naval defence generally - comprised often short-lived regional squadrons which reflected Spain's composite character.

As with the armies at the disposal of the Habsburgs, the number of forces, ships and galleons fluctuated, but broadly rose to a peak c 1620, declining thereafter.<sup>62</sup> The demands of the fleet had prompted the development by the crown of a supporting administrative infrastructure and forestry regulations intending to manage the many competing demands for timber (including shipbuilding).<sup>63</sup> Spain's failure to keep up in the naval race has been attributed to various factors, including further changes in naval technology,<sup>64</sup> and the associated cost of vessels. The main problem was want of funds, another way of saying that grand strategy meant overstretch in difficult economic conditions. But in a nod to Annales style mentalities in the working out of the Military Revolution it has been suggested that negative attitudes towards the sea in largely landlocked Castile translated into a reluctance there to serve at sea.<sup>65</sup> Defeat off The Downs in 1639 paralleled that on land at Rocroi, providing another symbolic marker and further superficial justification for dating Spain's decline from 1640.<sup>66</sup> The most recent work on the fleet in the reign of Carlos II depicts a seapower in a state of near collapse.<sup>67</sup>

Nevertheless, even a reduced Spanish fleet in the later seventeenth century was still - paralleling Spain's armies - bigger and more powerful than that of

60 José Alcalá Zamora, *España, Flandes y el Mar del Norte (1618-1639). La última ofensiva europea del los Austrias madrileños*, Critica, Barcelona, 1975; CEPC, Madrid, 2001.

61 Thompson, *War and Government*, cit, pp. 16-17

62 Thompson, *War and Government*, cit, pp. 300, 303

63 John T. Wing, *Roots of Empire: Forests and State Power in Early Modern Spain, c. 1500-1750*, Brill, Leiden, 2015.

64 John Guilmartin, *Gunpowder and Galleys. Changing Technology and Mediterranean Warfare at Sea in the Sixteenth Century*, Cambridge, CUP, 1974.

65 Goodman, *Spanish Naval Power*, cit, p. 241-53.

66 Goodman, *Spanish naval power*, cit, pp. 24-6.

67 Antonio Espino López, *La frontera marítima de la Monarquía. La marina de Carlos II*, Ministerio de Defensa, Madrid, 2019.

many other powers in Europe and above all continued to fulfil its key function; evading – mainly in the Mediterranean rather than the Atlantic - a French fleet which was seeking to engage and destroy it, Carlos II's ships kept the Monarchy connected and supplied. In addition, as on land it offered invaluable harbours and support facilities for allies which again suggests important other perspectives on how to understand the Military Revolution. Any weakness of the king's fleet might also of course be compensated by encouraging privateers, as happened in other states.<sup>68</sup>

### *The Eighteenth Century*

Jeremy Black has suggested that the Military Revolution is better located in the later seventeenth and early eighteenth centuries, roughly 1660-1760 (not 1560-1660), a suggestion which certainly has some relevance to the experience of Spain and the Spanish Monarchy.<sup>69</sup> While it is difficult to fit the Spain of the last Habsburg, the weak Carlos II, into a pattern of military innovation from above in the light of the prevailing historiography, that traditional metanarrative of crisis and decline is being challenged (above), and it is increasingly evident that some of the innovations in the military sphere in Spain after 1700 were anticipated before, that there was some continuity across the change of dynasty in that year.<sup>70</sup> But not all buy into the revisionist narrative,<sup>71</sup> and Habsburg and Bourbon Spain did differ in many important respects. This was in part because the War of the Spanish Succession, the Great War of the first half of the eighteenth century, was a real watershed in Spain. Spain's lack of the means to wage war, certainly on the scale of that conflict, has no doubt been exaggerated, but the first Spanish Bourbon, Philip V certainly depended on his grandfather

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68 Goncal López Nadal, *El corsarisme mallorquí a la Mediterranea Occidental, 1652-1698. Un comerç forçat?* Direcció General de la Cultura, Palma, 1986; Enrique Otero Lana, *Los Corsarios españoles durante la decadencia de los Austrias. El corso español del Atlántico peninsular en el siglo XVII (1621-1697)*, 3<sup>rd</sup> ed. Instituto de Estudios Bercianos, Ponferrada, 2014.

69 Jeremy Black, *A Military Revolution? Military Change and European Society 1550-1800*, Macmillan, Basingstoke, 1991.

70 Antonio José Rodríguez Hernández, 'Continuidad o Cambio? El Generalato entre los Austrias y los Borbones', *Cuadernos dieciochistas*, 15 (2014), pp. 47-72; Antonio José Rodríguez Hernández, '¿Evolución o innovación? Los cambios técnico-tácticos en el armamento del ejército español durante el relevo dinástico: nuevas consideraciones' *Cuadernos de Historia Moderna*, 41 (2016), pp. 273-94

71 Antonio Espino López, 'El declinar militar hispánico durante el reinado de Carlos II', *Studia Historica. Historia Moderna*, 20 (1999), pp. 173-98

Louis XIV to help him fight that war, at least initially, and Spain and the wider Monarchy emerged from the war very different from that Philip had inherited in 1700. Philip retained Spain and the Indies but lost Flanders and Spanish Italy (Naples, Sicily, Sardinia and Milan) which had been the real military core of the Monarchy for the best part of two centuries. Hitherto Spain's main – permanent – fighting forces had been located outside Spain itself – in Flanders and Lombardy – and what remained of these forces now relocated to Spain itself. In addition, Philip's troops were rearmed and reorganized taking the French army as a model.<sup>72</sup> Some older units, including the Guardias de Castilla, established by the Catholic Kings disappeared.<sup>73</sup> It was a royal army but still depended on private recruiting and a degree of venality.<sup>74</sup> Furthermore, this was very largely a Spanish army, but not exclusively so, reflecting the persistence of foreign elements here as in most other armies.<sup>75</sup>

The army also had a new role in Spain, making effective an enhanced royal authority which also created a more integrated, Castilianised “Spain”. Most of the army was stationed initially (after 1713) in those territories (more specifically Catalonia), Whereas in the reign of Carlos II a “neo-foral” approach in Madrid had respected the privileges of the territories of the crown of Aragon, the triumph of Philip's forces – two military victories (Almansa, 1707; Brihuega, 1710) suggesting the importance of individual engagements should not be

72 Francisco Andújar Castillo, *Los militares en la España del siglo XVIII. Un estudio social* Universidad de Granada, Granada, 1991; Francisco Andújar Castillo, ‘Las Elites de Poder Militar en la España Borbónica. Introducción a su Estudio Prosopográfico’, in José Luis Castellano, (ed.), *Sociedad, administración y poder en la España del Antiguo Régimen. Hacia una nueva historia institucional*, Universidad de Granada, 1996, pp. 207-35; Francisco Andújar Castillo, ‘El ejército de Felipe V. Estrategias y problemas de un reforma’, in Eliseo Serrano, (ed.), *Felipe V y su tiempo. Congreso Internacional*, Institución Fernando el Católico, Zaragoza, 2003, 2, pp. 661-82; Francisco Andújar Castillo, ‘La Guerra de Sucesión y los cambios en el ejército’, in Jesus Manuel González Beltrán, (ed.), *El asalto anglo-holandés de 1702 a la bahía de Cadiz. Entre la política internacional y las repercusiones locales*, Concejalía de Cultura del Ayuntamiento, Puerto de Santa Maria, 2003, pp. 53-74

73 Magdalena de Pazzis Pi Corrales, ‘Las Ordenanzas de las guardas de Castilla’, *Revista de Historia Militar*, 1 extra (2017), pp. p.96.

74 Francisco Andújar Castillo, *El sonido del dinero. Monarquía, ejército y venalidad en la España del siglo XVIII*, Marcial Pons, Madrid, 2004; Francisco Andújar Castillo, ‘Empresarios de la guerra y asentistas de soldados en el siglo XVII’, García Hernán and Maffi, *Guerra y Sociedad*, cit, 2 pp. 375-94.

75 Javier Bragado Echevarría, ‘Los regimientos suizos al servicio de España en las guerras de Italia (1717-1748)’, *Cuadernos de Historia Moderna*, 41 (2016), pp. 295-312.

underplayed<sup>76</sup> - enabled him to impose a new settlement, the so-called “Nueva Planta” at the expense of Aragonese institutions. But the marked military presence in Catalonia reflected a further transformation, i.e. in the purpose and use of Spain’s army. Carlos II and his ministers had been primarily concerned with retaining their global territories - conservation – a defensive strategy,<sup>77</sup> but Philip V - a troubled individual who was at his most confident in war, a true “roi de guerre”<sup>78</sup> - aggressively sought to reverse much of the peace settlement of 1713-14, to recover Spanish Italy, and to make good his second wife’s dynastic claims in other parts of Italy on behalf of their sons. Spain’s interventions in Italy and elsewhere between 1713 and 1748 were not completely successful but they represented a strategic revolution. The successes that were enjoyed owed something to another element already commented on (above) which the Military Revolution debate needs to take more account of in considering the environment which is so important to its working out: the attitude – accommodating or not – of surrounding powers, in that period Britain and France, both recovering from the challenge of the War of the Spanish Succession and experiencing their own domestic dynastic and other difficulties. Philip’s revisionism and the wars associated with it brought further innovations. Spanish participation in the unduly neglected War of the Polish Succession -it almost brought about the complete expulsion of the Austrian Habsburgs from Italy triggered a reform of the militia in Spain, initially limited to Castile but later extended throughout Spain, with enormous implications for the civilian population.<sup>79</sup>

Equally – or perhaps more - striking was the transformation of the Spanish fleet. A programme of naval reconstruction began almost immediately the War of the Spanish Succession ended. It suffered setbacks (notably the almost complete destruction of the expeditionary force sent to Sicily in 1718 at English hands) but was resumed under José Patiño, with a new administrative structure including naval departments/ bases responsible for different maritime sectors

76 Aitor Díaz Paredes, *Almansa 1707 y el Triunfo Borbónico en España*, Desperta Ferro, Madrid, 2022.

77 John H. Elliott, ‘A Question of Reputation? Spanish Foreign Policy in the Seventeenth Century’, *Journal of Modern History*, 55, 3 (1983), pp. 475-83

78 Alejandro Diz, ‘El Transito del “Rey Guerrero” y “Cortesano” al Rey o Gobernante “Comerciante”’. Felipe V, el ultimo “Rey Guerrero”, in Serrano, *Felipe V*, cit, 1, pp. 843-63

79 Johann Hellwege, *Die spanischen Provinzialmilizen im 18. Jahrhundert*, Harald Boldt Verlag, Boppard am Rhein, 1969; José Contreras Gay, *Las Milicias Provinciales en el Siglo XVIII. Estudio sobre los Regimientos de Andalucía*, Instituto de Estudios Almerienses, Almería, 1993; José Contreras Gay, ‘Las milicias en el antiguo régimen. Modelos, características generales y significado histórico’, *Chronica Nova*, 20 (1992), pp. 75-104.

and - after more wartime setbacks - again in the 1760s<sup>80</sup>. Indeed the reign of Philip V's son, Charles III witnessed another remarkable "turn to the sea" with an emphasis on the fleet at the expense of the army, the establishment of a much larger fleet - more ships, more crews, more officers- the whole underpinned by a reform of the so-called *matricula* system, a naval version of the militia, which traded privileges for service for Spain's maritime population, enriching the existing mosaic of privilege that was Spanish *ancien regime* society.<sup>81</sup> In terms of tactics, galleys disappeared (in 1748) - as in neighbouring France- another revolution within the overall Military Revolution. There was still scope for privateering, but for most of the eighteenth century Spain relied at sea on what was the third largest navy in Europe and those manning it represented a distinctive – and often very visible – part of Spanish society,<sup>82</sup> the sea service by no means undervalued as has been claimed for Habsburg Spain.

### *Broader Political, Social, Cultural Consequences*

For Roberts, the Military Revolution facilitated state formation and absolutism,<sup>83</sup> an insight which has been further developed and refined by Brian Downing among others.<sup>84</sup> This may have been the case in some states, but it was not inevitable, while others – Parker, Black – reverse the relationship between effective state and war. In the case of Spain I.A.A. Thompson has made a powerful case, echoing the arguments of David Parrott and others, that in the seventeenth century the demands of war on the new scale simply proved too much for the existing rather simple state structure. The Spanish Habsburgs certainly elaborated a set of distinctive, specialist institutions to oversee their armies and fleets, a council of war and associated secretariats and committees (*juntas*) with specific responsibilities, which survived – with further modifications in the direction

80 Jeremy Black, 'Anglo-Spanish Naval Relations in the Eighteenth Century', *Mariner's Mirror*, 77 (1991), pp. 235-58

81 José Manuel Vázquez Lijó, 'Los privilegios de la matricula de mar y su cuestionamiento práctico: la dureza del real servicio en la Armada del siglo XVIII', *Obradoiro de Historia Moderna*, 6 (1997), pp. 107-30.

82 José Patricio Merino Navarro, *La armada Española en el siglo XVIII*, FUE, Madrid, 1981; Ediciones 19, Madrid, 2019; Rafael Torres Sánchez, *Historia de un Triunfo. La Armada Española en el Siglo XVIII*, Desperta Ferro, Madrid, 2021.

83 Thompson, 'Preface', cit, p. 8

84 Brian Downing, *The Military Revolution and Political Change in Early Modern Europe* Princeton University Press, Princeton, 1992



of greater bureaucracy – the change of dynasty in 1700.<sup>85</sup> However, the cost so challenged the Crown that, according to Thompson, and before the failure by 1640 of the count duke of Olivares' so-called Union of Arms (an attempt to get the other parts of the Monarchy to shoulder a burden which a hard-pressed Castile could no longer support unaided), Spain – the Monarchy – witnessed a retreat from centralized absolutism, with widespread delegation and devolution of responsibility for providing a wide range of military services, including recruiting. It may be, however, that Thompson exaggerates the failings of the central agencies and the extent to which this process of what is sometimes called señorialisation represented a loss of overall control by the Crown.<sup>86</sup> As for Bourbon Spain, developments after 1700 (above) align well with Black's view that the Military Revolution was a consequence rather than a cause of royal absolutism, although we are also more aware than we used to be of the extent to which even under absolutist regimes authority was imperfect, frequently "negotiated". At the same time, recent years have seen Spain foregrounded as an example of new types of state, the fiscal-military state and the contractor state, whose origins clearly owe a great deal to the Military Revolution debate.<sup>87</sup>

As for the broader social impact of the Military Revolution, many historians

85 I.A.A. Thompson, 'The Armada and Administrative Reform: the Spanish Council of War in the reign of Philip II', *English Historical Review*, 82, 4 (1967), 698-725; Thompson, *War and Government*, cit; Gloria Franco Rubio, 'La Secretaría de Estado y del Despacho de Guerra en la Primera Mitad del Siglo XVIII', in Castellano, *Sociedad, administración y poder en la España del Antiguo Régimen*, cit, pp. 131-56; Patrick Williams, 'The Spanish Council of War under Charles II: Professionalism - and Decline?', in Oscar Recio Morales, (ed.), *Redes de nación y espacios de Poder. La comunidad irlandesa en España y la América Española 1600-1825/ Power Strategies, Spain and Ireland 1600-1825*, Albatross, Madrid, 2012, pp. 137-53.

86 Luis Ribot García, 'El Ejército de los Austrias: aportaciones recientes y nuevas perspectivas', *Pedralbes*, 3 (1983), pp. 89-126; Ignacio Atienza Hernández, *Aristocracia, poder y riqueza en la España moderna: La Casa de Osuna siglos XV-XIX*, Siglo XXI, Madrid, 1987; Bartolomé Yun Casalilla, 'La aristocracia castellana durante los reinados de Felipe III y Felipe IV', in John H. Elliott and Ángel García Sanz (eds), *La España del Conde-Duque de Olivares*, Universidad de Valladolid, Valladolid, 1990, pp. 519-51; Carla R. Phillips, *Six Galleons for the King of Spain. Imperial Defense in the Early Seventeenth Century*, Johns Hopkins Press, Baltimore, 1986.

87 Rafael Torres Sánchez, (ed.), *War, State and Development. Fiscal-Military States in the Eighteenth Century*, EUNSA, Pamplona, 2007; Rafael Torres Sánchez, *El precio de la guerra. El estado fiscal-militar de Carlos III (1779-1783)*, Marcial Pons, Madrid, 2013; Rafael Torres Sánchez, *Military Entrepreneurs and the Spanish Contractor State in the Eighteenth Century*, OUP, Oxford, 2016; Sergio Solbes Ferri, 'La prioridad dinástica del rey Felipe V. Análisis de los costes de la expedición del infante Don Felipe a Italia (1742-1746)', *Revista Universitaria de Historia Militar*, 5, 2016, pp. 111-134

have broadly subscribed to Roberts' original contention about the decline of the dominant role in armies of traditional elites.<sup>88</sup> But further research questions this. Indeed, it has been suggested that the continued hold on senior positions of the elites may – the claim is not uncontested – have contributed to a decline in the quality of the high command, contributing in the case of the Army of Flanders to defeat at Rocroi.<sup>89</sup> After 1700, in Spain – as elsewhere – the nobility rediscovered the military (and in a new way the naval) vocation (if it had ever truly lost it), in part deliberately encouraged by monarchs who offered the nobility exclusive – privileged – access via cadet schemes to the officer corps in both the army and the revamped navy.<sup>90</sup> More of Spain's adult male population spent some time in uniform, more of them were visible in uniform, and some sectors of the administration – including the pursuit of criminals (smugglers) – were militarized,<sup>91</sup> but it would be difficult to see Spanish society generally as militarised in the eighteenth century.<sup>92</sup>

### *The Triumph of the West?*

As noted above Geoffrey Parker broadened his initial challenge to Roberts' Military Revolution to assert the importance of his version of the Military Revolution as an explanation for the rise and triumph of the West (ie. Europe) by the end of the early modern era. In view of the extent to which Spain was a

88 David García Hernán, 'La Función Militar de la Nobleza en los Orígenes de la España Moderna', *Gladius*, 20, 2000, pp. 285-300; Christopher Storrs and Hamish M. Scott, 'The Military Revolution and the European Nobility', *War in History*, 3 (1996), pp. 1-41.

89 González de León, *Road to Rocroi*, cit.

90 Francisco Andújar Castillo, 'Aproximación al origen social de los militares en el siglo XVIII (1700-1724)', *Chronica Nova*, 10 (1979), pp. 5-31; Francisco Andújar Castillo, *Los militares en la España del siglo XVIII. Un estudio social*, Universidad de Granada, Granada, 1991; Pablo Ortega del Cerro, 'Spain: The New Model Officer', in Evan Wilson, Anna Sara Hammar, and Jakob Seerup, eds., *Eighteenth-Century Naval Officers: A Transnational Perspective*, Palgrave Macmillan, 2019, pp. 73-97; Storrs and Scott, 'Military Revolution and European Nobility', cit.

91 Miguel Ángel Melón Jiménez, *Los Tentáculos de la Hidra. Contrabando y militarización del orden público en España (1784-1800)*, Silex, Madrid, 2009; José Miguel Palop Ramos, 'La militarización del orden público a finales del reinado de Carlos III la Instrucción de 1784', *Revista de Historia Moderna*, 22 (2004), pp. 453-86.

92 Enrique Giménez López, 'El debate civilismo-militarismo y el régimen de Nueva Planta en la España del siglo XVIII', *Cuadernos de Historia Moderna*, 15 (1994), pp. 41-75; Pablo Fernández Albaladejo, '"Soldados del Rey, soldados de Dios". Ethos militar y militarismo en la España del siglo XVIII', *Espacio, Tiempo y Forma*, Ser. IV, Historia Moderna, 11 (1998), p. 303-320.

global power, present not only in North Africa but also in the Americas and in the East (the Philippines), here too Spain's experience is germane to the broader Military Revolution debate. Spain certainly exported European conflicts around the globe, the War of the Spanish Succession embracing for example the Philippines.<sup>93</sup> Well before that, Spanish conquistadors had carried European ways of war across the Atlantic. Traditional accounts emphasise the importance of firepower (unknown to the native populations initially encountered in the Americas) in the initial Spanish conquests in the Caribbean, and of Mexico and Peru. But the "new Conquest history" – drawing on a generation of revisionist research – makes clear that the Spanish conquest of the Americas was far more complex and depended more than used to be realized on alliance with native enemies of the Aztec and Inca empires conquered by the Spaniards.<sup>94</sup> Furthermore, conquest was by no means complete by 1550 or even 1600 or 1700, particularly in those areas north of Mexico and south of Peru which were largely inhabited by nomadic groups with their ways of war.<sup>95</sup> The Spaniards did build the bastion fortresses so seldom in Spain itself, for example at Lima, Cartagena, and Havana, primarily against European not native opponents, but there was a constant discussion – one perhaps too easily overlooked in the Military Revolution debate – about the relative value of fixed or mobile defences against both pirates and state fleets. Only in the eighteenth century did Spain establish permanent

93 José Ángel del Barrio Muñoz, *Filipinas y la Guerra de Sucesión Española: Avatares y Sucesos en un Frente secundario (1701-1715)*, Castilla, Valladolid, 2015.

94 Ross Hassig, *Mexico and the Spanish Conquest*, Longman, Harlow, 1994; George Raudzens, 'So Why Were the Aztecs Conquered, and What Were the Wider Implications? Testing Military Superiority as a Cause of Europe's Pre-industrial Colonial Conquests', *War in History*, 2, (1995), pp. 87-104; Matthew Restall, *Seven Myths of the Spanish Conquest*, OUP, Oxford and New York, 2003, and Matthew Restall 'The New Conquest History', *History Compass*, 10 (2012).

95 George D. Jones, *Maya Resistance to Spanish Rule: Time and History on a Colonial Frontier*, New Mexico UP, Albuquerque, 1989; George D. Jones, *The Conquest of the Last Maya Kingdom*, Stanford UP, Stanford, 1998; Andrew L. Knaut, *The Pueblo Revolt of 1680: Conquest and Resistance in Seventeenth-Century New Spain*, Oklahoma UP, Norman, 1995; Caroline A. Williams, 'Resistance and Rebellion on the Spanish Frontier: Native Responses to Colonization in the Colombian Choco, 1670-1690', *Hispanic American Historical Review*, 79 (1999), pp. 397-423; Caroline A. Williams, *Between Resistance and Adaptation. Indigenous Peoples and the Colonisation of the Chocó, 1510-1753*, Liverpool UP, Liverpool, 2004; Caroline A. Williams., 'Opening New Frontiers in Colonial Spanish American History: New Perspectives on Indigenous-Spanish Interactions on the Margins of Empire', *History Compass*, 6 (2008); Tamar Herzog, 'La empresa administrativa y el capital social: los Sánchez de Orellana (Quito, siglo XVIII)', in Castellano, *Sociedad, administración y poder en la España del Antiguo Régimen*, cit, pp. 381-96.

forces in the Americas and create a navy which bound its empire more tightly together than was the case in previous centuries. As for North Africa, the Spaniards built fortresses,<sup>96</sup> but despite occasional raids into the interior they never really broke out of their isolated coastal enclaves, depended almost entirely on supply from Spain (by the galleys) and were frequently on the backfoot (witness the long siege of Ceuta, 1694-1720), successes like that at Oran (captured in 1732) merely recovering earlier losses. The Spanish authorities were still facing resistance on the colonial periphery in the Americas,<sup>97</sup> and failing to deal effectively with opponents in north Africa well into the eighteenth century.<sup>98</sup>

### Conclusion

The foregoing pages represent one historians' attempt to squeeze into too small a space the multi-faceted experience and performance of Spain as a military power in the early modern era. War, how it was fought and the armies that fought it were very different in 1789 on the eve of the French revolution wars to what they were in 1500 - or, in the case of Spain in 1482 at the start of the Granada War. Bourbon Spain clearly differed from Habsburg Spain in how it waged war, but there had also been change in Habsburg Spain. Spain's military machine was much bigger, more global, more expensive and permanent in 1789 than in 1482. Change, in Spain as elsewhere, was driven by a variety of pressures - cultural, economic, political, social - by the availability/ awareness of alternative models, home grown or foreign, and by the readiness or not to adapt/ change, something - the accompanying debates - we need to pay more attention to in charting change.<sup>99</sup> Whether the many changes between 1500 and 1800 amounted to a revolution, whether one single over-arching revolution, or even a succession of revolutions is moot. Some changes might even - witness

96 Francisco Javier Bueno Soto, 'Larache y La Mamora: dos fortificaciones españolas en tiempos de Felipe III', *Aldaba*, 34 (2008), pp. 51-96.

97 David Weber, *The Spanish Frontier in North America 1513-1821*, Yale UP, New Haven, 1992; David Weber, *Barbaros: Spaniards and their Savages in the Age of Enlightenment*, Yale UP, New Haven, 2005.

98 Agustín Guimerá Ravina, 'Historia de una incompetencia el desembarco de Argel, 1775', *Revista Universitaria de Historia Militar*, 5 (2016), pp. 135-156.

99 For resistance to change and related divisions within the officer corps which may have weakened the army after 1789, cf David A. Abian Cubillo, 'Las resistencias a la modernización del ejército borbónico', in Tomas A. Mantecón Movellán, Marina Torres Arce, and Susana Truchuelo García, (eds), *Dimensiones del conflicto; resistencia, violencia y policía en el mundo urbano*, Ediciones Universidad Cantabria, Santander, 2020, pp. 465-85.

the resurgence of the horse in the seventeenth century - be considered (tactical) counter-revolutions, some were clearly responses to specific challenges, for example the reform of the defences of Spanish America which followed the disasters (Havana, Manila) of the Seven Years War.<sup>100</sup> With innovation - reform - a continuous process, how do we decide - and agree - the importance of any single measure? It is a commonplace to say that more work needs to be done, opening up neglected areas of research, but it remains the case that many aspects of early modern warfare remain inadequately explored and understood; we need Annales type total histories of what was far from total war - including "the everyday"- in the early modern era.<sup>101</sup> We also need to consider the diplomatic sphere. As for Spain, is Thompson correct to assert that the theory of the Military Revolution (whichever version of the latter we prefer) stands or falls by its applicability to a Spain which was in effect *sui generis*, hardly comparable in important respects with most of its neighbours and competitors? And is it sufficient to deny that there was a Military Revolution in Spain because it did not result in Thompson's version - not universally shared - of a sovereign early modern polity? It may be that there is little point in trying to fit Spain's experience into what might be thought the straitjacket of the Military Revolution, although the latter has on the whole stimulated rather than obstructed the study of the armies and warfare of early modern Spain. Indeed, the framework provided by the concept of the Military Revolution may be too entrenched for the revisionists who would do away with it, not least because of its flexibility and broad interpretative utility. And Spain's distinctive experience might offer new insights to refresh and re- frame the larger debate.

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100 Allan J. Kuethe, and Kenneth Andrien, *The Spanish Atlantic World in the Eighteenth Century. War and the Bourbon Reforms, 1713-1796*, CUP, Cambridge, 2014.

101 Lorraine White, 'Spain's Early Modern Soldiers: Origins, Motivation and Loyalty', *War and Society*, vol 19 (2001), pp. 19-46, and 'The experience of Spain's early modern soldiers: combat, welfare and violence', *War in History*, 9 (2001), pp. 1-38. For some insights, cf Parker, *Army of Flanders*, cit, pp. 133-56 and Thompson, 'Soldiers of Philip II', cit, pp. 89-110.



# Moving Beyond the Military Revolution: The Portuguese case<sup>1</sup>

By HÉLDER CARVALHAL<sup>2</sup>, ANDRÉ MURTEIRA<sup>3</sup>,  
and ROGER LEE DE JESUS<sup>4</sup>

**ABSTRACT.** This article discusses recent historiographical trends regarding the evolution of warfare in Portugal and its overseas empire in the early modern period. It presents a reassessment of the state of art on the Portuguese case in the early modern world (in the kingdom of Portugal in Europe and its overseas empire), followed by some contributions for an ongoing research agenda. It is divided in three parts, presenting overviews of the situation in Europe, overseas and at sea. It concludes that it is difficult to sustain that the Portuguese case supports the case for a link between an alleged military revolution and unilinear state-formation or Western military exceptionalism

**KEYWORDS:** WARFARE; EARLY MODERN PORTUGUESE WORLD; NAVAL HISTORY; EMPIRE; STATE BUILDING

**T**his article discusses recent historiographical trends regarding the evolution of warfare in Portugal and its overseas empire in the early modern period. Despite its relative lack of appeal to a substantial part of academia, Portuguese military history has recently attracted increasing attention, in part due to its relationship with economic and social history but also because of its relevance for the history of European overseas empires and, subsequently, to colonial and post-

- 1 The authors would like to express their gratitude to a number of people involved in the current debates about this topic. Acknowledgements are owed to every participant of the two online presentation sessions of the volume *The First World Empire*, which occurred on 21th and 28th May 2021. The ideas debated within this article benefited greatly from these two meetings. In particular, we wish to thank: Cátia Antunes, Christopher Storrs, Fernando Dores Costa, Francisco Bethencourt, Jeremy Black, and Zoltán Biedermann.
- 2 Dep. of Economics, The University of Manchester, The United Kingdom.
- 3 CHAM (FCSH, Universidade NOVA de Lisboa). André Murteira's contribution to this article was undertaken as a part of his research project, "Ships and War: Dutch and Iberian War Fleets in the Dutch-Iberian Global Conflict (1600-1669)", funded by Fundação para a Ciência e a Tecnologia, Portugal (reference: 2021.02332.CEECIND).
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colonial history. The publication of the volume *The First World Empire* (Routledge, 2021), coedited by the authors of this article, was one of the outcomes of this rise in interest. However, a set of other works have contributed to the topic, while many loose ends still await further study. It is our intent to readdress what we know thus far to provide a set of considerations for new avenues of research.

To do so, the article will proceed with a reassessment of the state of art on the Portuguese case in the early modern world (in the kingdom of Portugal in Europe and its overseas empire), followed by some contributions for an ongoing research agenda. More specifically, we shall base these reflections on the contributions of recent literature, as well as in the comments and criticisms on the abovementioned volume in online presentation sessions and in the reviews already published.<sup>5</sup> The article is divided into three parts, presenting overviews of the situation in Europe, overseas and at sea.

### *War in Europe*

Is the topic of the Military Revolution definitely surpassed, in what concerns the early modern Portuguese world? How can we move on to improve our knowledge about warfare during this period? How does warfare interact with other historical processes, such as state and empire building?

One of the main points of the discussions following the release of *The First World Empire* lies in the relevance of warfare for state building - how and with what means war was conducted. The work of scholars such as Charles Tilly and Jan Glete, among others, has emphasised the symbiosis between the two phenomena.<sup>6</sup> Early modern European polities progressively required a higher sum of resources to face the increased expenses of numerous armies, naval and land artillery, and fortifications. Such resources would often come through higher taxation or increased debt, which, consequently, led to a gradual and discontinuous development of the state.<sup>7</sup>

If these claims describe most European polities at that time, even with ca-

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5 Respectively, by Christopher Storrs in the *Journal of Early Modern History*, 25, 6 (2021), pp. 577-79, and Erik Odegard in *Ler História* 80 (2022).

6 Charles Tilly, *Coercion, Capital, and European States, AD 990-1990*, Cambridge, MA, Blackwell, 1990, pp. 20-28, 67-95; Jan Glete, *War and State in Early Modern Europe: Spain, the Dutch Republic and Sweden as Fiscal-Military States, 1500-1660*, London-New York, Routledge, 2002, pp. 10-41.

7 See, among others, the essays in Rafael Torres Sánchez (Ed.), *War, State and Development. Fiscal-Military States in the Eighteenth Century*, Pamplona, EUNSA, 2007.

veats on the chronology and intensity of changes, the Portuguese case seems to arguably account for significant differences in many of these indicators. Metropolitan Portugal is presented as a case where a transition from a ‘domain’ to a ‘tax state’ happened precociously.<sup>8</sup> It was estimated that its fiscal capacity c.1500 was comparatively higher than other parts of Europe, such as the Netherlands or England.<sup>9</sup> However, a major part of the state's set expenditure until the end of the sixteenth century was allocated to the royal household and redistribution to elites rather than to purely military purposes, which only grew in proportion after 1600, with a substantial part being spent on overseas outposts.<sup>10</sup> In turn, the contribution of intercontinental trade to Portuguese income per capita was, at best, one-fifth during the period of 1500-1800.<sup>11</sup> Levels of ‘public’ debt were relatively low in comparative perspective until the end of the early modern period. If we exclude the high levels of indebtedness from the early sixteenth century, provoked by investment in intercontinental trade and fortification in North African outposts, the peaks in the subsequent periods were due to military expenditure, such – as during the War of Restoration (1640-1668) or due to the Napoleonic conflicts since the late 1790s.<sup>12</sup> However, these costs appear to be low when compared with other European case studies. Finally, it must be highlighted that recruitment capacity in mainland Portugal rarely (if ever) surpassed the army size of 20,000 men between the early 1400s and 1800.<sup>13</sup> If such capacity was relatively high in the fifteenth and sixteenth centuries - when compared

8 António Castro Henriques, “The Rise of a Tax State: Portugal, 1371-1401”, *E-Journal of Portuguese History*, 12, 1 (2014), pp. 49-66.

9 António Castro Henriques and Nuno Palma, “Comparative European Institutions and the Little Divergence, 1385-1800”, *Journal of Economic Growth* (forthcoming).

10 Hélder Carvalho, «Army Size, State Expenditure, and Warfare Culture in Sixteenth-Century Portugal», in Hélder Carvalho, André Murteira, and Roger L. de Jesus (Eds.), *The First World Empire. Portugal, War, and Military Revolution*, London-New York, Routledge, 2021, pp. 69-85. For a recent long run analysis, see Leonor Freire Costa, António Castro Henriques, and Nuno Palma, *Anatomy of a Premodern State*, Manchester Economics Discussion Paper Series 2208, 2022 [online: <https://hummedia.manchester.ac.uk/schools/soas/economics/discussionpapers/EDP-2208.pdf>; 25/11/2022; 09h00].

11 Leonor Freire Costa, Nuno Palma, and Jaime Reis, “The Great Escape? The Contribution of the Empire to Portugal’s Economic Growth, 1500-1800”, *European Review of Economic History*, 19, 1 (2015), pp. 1-22.

12 Leonor Freire Costa, Susana Münch Miranda, and Pilar Nogues-Marco, *Early Modern Financial Development in the Iberian Peninsula*, Geneva, Paul Bairoch Institute of Economic History, 2021.

13 Carvalho, ‘cit.’, pp. 73-74; Fernando D. Costa, “Was There an Early Modern Military Revolution in Mainland Portugal?”, in Carvalho, Murteira, and Jesus, ‘cit.’, pp. 86-103.

to kingdoms such as France, England, or Sweden - the same cannot be said for later periods. Thus, the integration of the Portuguese case within the pattern of a Military Revolution is far from fitting.

In addition to the relationship among taxation, debt, and state building, other scholars have focused on what exactly defines state building from a socio-political perspective. The degree of state building itself in Portugal remains a matter of dispute. Criticising a more traditional historiography, which dated the emergence of the modern centralised state to the Portuguese late-mediaeval period, António M. Hespanha pioneered a school of thought that placed emphasis on the autonomy of the so-called peripheral powers. Consequently, it implied a certain feebleness of the monarchical state - viewed as the 'central' administration - in comparison to the periphery.<sup>14</sup> Acknowledging the autonomy of the peripheral powers, as well as their capacity to negotiate with the political centre, Francisco Bethencourt proposed a different approach that consisted of considering local organisations - such as the municipalities or the confraternities (*Misericórdias*) - as part of the premodern state. According to this perspective, the state would be well connected with local/regional realities and, thus, stronger than has been suggested by other views.<sup>15</sup>

A fair share of research questions remain unanswered. Little is known about the procedures and pitfalls regarding military recruitment and how these processes evolved over time. As in other European cases, research on partnerships with private contractors to provide supplies and military personnel has been conducted recently.<sup>16</sup> However, we know little about how other stakeholders - including both municipalities, as well as lay and ecclesiastical houses, and middle-ranked officials with military jurisdiction at the regional level - served as middlemen during the several stages of such processes. It is certain that coercion played an important role in filling the ranks, especially given the high propensity for desertion throughout the early modern period.<sup>17</sup> A higher emphasis on the social and logistical vicissitudes of warfare, especially adopting a bottom-up perspective, would certainly propitiate a more detailed understanding of these

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14 António M. Hespanha, *As vésperas do Leviathan. Instituições e poder político: Portugal, século XVII*, Coimbra, Almedina, 1994.

15 Francisco Bethencourt, "Managing Diversity in the Portuguese Empire", *E-Journal of Portuguese History*, 19, 2 (2021), pp. 1-23 (5-6).

16 Edgar Pereira, "A Contractor Empire. Public-Private Partnerships and Overseas Expansion in Habsburg Portugal (1580-1640)", PhD dissertation, University of Leiden, 2020.

17 Fernando Does Costa, *Insubmissão: aversão ao serviço militar no Portugal do século XVIII*, Lisbon, Imprensa de Ciências Sociais, 2010.

issues. At the moment, Edgar Pereira's research shows that the resort to private contractors in this and other fields reached significant proportions.

The available evidence leaves room to ask whether there were two different models of warfare evolution in mainland Portugal and its empire, which were necessarily favoured by different socio-political, military, and economic circumstances. Due to the abovementioned evidence regarding army size, taxation, relatively low levels of public debt, and arguably low overall levels of colonial extraction (and with no direct consequence to war finances in Europe), metropolitan Portugal appears to be, for most of the period, militarily stagnant in relation to other European powers. In turn, such conditions correlate with the relatively few episodes of open war over three centuries (c.1500-c.1800): the Spanish invasion during the succession crisis (1580-1581), the Restoration War (1640-1668), the brief participation in the Seven Years War (1762-1763), and, last, the confrontations related to the Napoleonic invasions in the nineteenth century. A low percentage of time was spent at war, especially when compared with the average of other European polities, which was 71% in the period 1550-1600, two-thirds between 1600 and 1650, and more than 50% until 1700.<sup>18</sup>

### *The Empire*

The Portuguese Empire, on the contrary, accounts for a diverse set of realities, in which a quasi-permanent situation of warfare remains as perhaps one of the few common denominators, together with trade and the extraction of resources.

War and violence were the central elements that enabled the construction of colonial empires. In Asia, waging war was the only way that the Portuguese Crown could, at the time, enter the local markets. When Vasco da Gama arrived in India, at the end of the fifteenth century, the commercial routes were already well established, maintaining a connection to Europe through the Red Sea and the Persian Gulf that went back thousands of years. Hence, the only way to interfere with existing commercial networks was through war, which, in a certain way, brought a new dynamic since violence and the use of military forces were not commonly associated with commerce in Asian waters at the time. In Africa and Brazil, the reality was different, since the Portuguese developed their commerce to Europe without competition, and the way to impose their presence

18 Philip T. Hoffman, "Why Was It Europeans Who Conquered the World?", *Journal of Economic History*, 72, 3 (2012), pp. 601-33 (603). The participation of Portugal in the Spanish War of Succession (1701-1714) is not accounted for here.



was facilitated by the lack of firepower and cohesive local powers. However, in every location, they developed diplomatic relations to divide and rule, always using local politics in their favour, an old strategy used since the dawn of times and successfully applied by every European power in the colonial context.

In some cases, this broad context provided incentives to improve the ability to gather financial resources to accommodate a gradual increase in military expenditure. European and non-European powers in Asia pursued the development of high-efficiency fiscal states, even if they had to compromise with local legal, socio-political, and cultural constraints.<sup>19</sup> The Portuguese *Estado da Índia* fit within this pattern, as most of its revenue originated from indirect taxation, such as custom duties and sales monopolies.<sup>20</sup> Moreover, it is well known that non-Europeans participated in the local tax systems as well as in capital markets, given that the *Estado* often borrowed from these elites to face the expenses of both trade and war.<sup>21</sup> If the increasing levels of indebtedness resulted from the needs of the colonial administration, it is also noteworthy that the state could hardly accomplish its ends without the participation of private stakeholders. Indeed, most of the empire was ungovernable without the participation of the colonial elites until very late in the period.<sup>22</sup> Given the interests and material gains of these elites, some authors have raised questions about whether the Portuguese empire should be seen as a ‘stakeholder’ empire, as in the Spanish case, which is even more relevant for future research.<sup>23</sup> The geography of the *Estado*

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19 See, for instance, Patrick K. O’ Brien, “Afterword: Reflections on Fiscal Foundations and Contexts for the Formation of Economically Effective Eurasian States from the Rise of Venice to the Opium War”, in Bartolomé Yun-Casalilla and Patrick K. O’ Brien (Eds.), *The Rise of Fiscal States. A Global History, 1500-1914*, Cambridge, Cambridge University Press, 2012, pp. 442-53.

20 Susana Münch Miranda, “Fiscal System and Private Interests in Portuguese Asia under the Habsburgs, 1580-1640”, *Journal of the Economic and Social History of the Orient*, 60, 3 (2017), pp. 202-32 (207-08).

21 Michael N. Pearson, “Banyas and Brahmins. Their Role in the Portuguese Indian Economy”, in *Coastal Western India. Studies from the Portuguese Records*, New Delhi, Concept Publishing Company, 1981, pp. 93-115; Sanjay Subrahmanyam and Chris A. Bayly, “Portfolio Capitalists and the Political Economy of Early Modern India”, in Sanjay Subrahmanyam (Ed.), *Merchants, Markets and the State in Early Modern India*, New Delhi, Oxford University Press, 1990, pp. 242-65; Miranda, ‘cit.’, pp. 216-24.

22 Miguel Dantas da Cruz, “‘Small Government or Big Government?’ Assessing State Expansion in the War for Colonial Brazil”, in Carvalho, Murteira and Jesus, ‘cit.’, pp. 105-18.

23 As noted by Miranda, ‘cit.’, p. 205, based on the work of Jorge Pedreira. For the Spanish case, see Regina Grafe and Alejandra Irigoin, “A Stakeholder Empire: The Political Economy of Spanish Imperial Rule in America”, *Economic History Review*, 65, 2 (2012), pp. 609-65.

*da Índia*, stretching from the oriental coast of Africa to Macau and Japan, made it difficult to maintain an efficient economic military structure, as was recently studied for the mid-sixteenth century.<sup>24</sup> In any case, the lack of more studies on the financial structure of the Portuguese administration prevents us from fully understanding how war was waged and even its direct impact on the sustainability of the empire.

Scholars have also highlighted the relationship between state centralization and guns as a major breakthrough.<sup>25</sup> The development of gunpowder firearms is a central argument in the Military Revolution concept, as it led to architectural and tactical innovations. However, the Portuguese experience may challenge how transformative this was. Regarding military architecture, the increasing expenses to build or adapt fortress *alla moderna*, where the angular bastion was effective, did not have an immediate impact. The first fortresses adapting to these new forms were in North Africa, Ceuta and Mazagão (currently El Jadida), in 1540-1541; in Asia, the new wall of the fortress of Diu was built in 1546-1547, and after that, the fortress of Mozambique Island also gained a *trace italienne* in 1558-1559.<sup>26</sup> Brazil and Africa only truly developed this type of architecture later, from the seventeenth century onwards, when European competition forced the Portuguese Crown to defend itself from naval attacks. Despite the dissemination of these new forms, recent studies by Sidh Losa Mendiratta show that in the *Província do Norte* of the *Estado da Índia* (the land between Chaul and Damão, on the northwest coast of India, including Bombay), the development of tower houses (*casas-torre*) and fortified manor houses were key components of the Portuguese defensive system.<sup>27</sup> Those kinds of tower houses, which were popular in Portugal between the 13<sup>th</sup> and fifteenth centuries, reappeared in this context and created a network of small defences in foreign spaces, right along enemy lines. More than adopting bastions, it was essential to settle a presence in the land. Parker's argument that the artillery fortress was 'an engine of European overseas expansion' still needs to be questioned and developed.<sup>28</sup> Therefore,

24 Roger Lee de Jesus, "A governação do 'Estado da Índia' por D. João de Castro na estratégia imperial de D. João III", PhD dissertation, University of Coimbra, 2021, pp. 199-211.

25 Tonio Andrade, "The Military Revolution in Global History. East Asian perspectives", in Carvalho, Muteira, e Jesus, 'cit.', pp. 223-238.

26 João Barros Matos, "Do mar contra terra. Mazagão, Ceuta e Diu, primeiras fortalezas abaluartadas da expansão portuguesa", PhD dissertation, University of Seville, 2012.

27 Sidh Mendiratta, *Dispositivos do sistema defensivo da Província do Norte do Estado da Índia*, PhD dissertation, University of Coimbra, 2012.

28 Geoffrey Parker, "The Artillery Fortress as an Engine of European Overseas Expansion,

case studies of sieges are important, and they are frequently forgotten from the historiography related to the Portuguese Empire<sup>29</sup> – for example, a more in-depth study of the famous siege of Chaul (1570-1571)<sup>30</sup> or the multiple sieges of Melaka by local forces and by the Dutch, or even the fall of Bassein (1738) in India, could provide more novelty on this subject. Even non-European adoption of new architectural forms has been reconsidered, as Eaton and Wagoner's remarkable study on the Deccan Plateau has shown.<sup>31</sup>

The dissemination of firearms can be perceived as innovative, at least, in Asian and African battlefields.<sup>32</sup> It is one of the most well accepted ideas that the Portuguese had a significant impact on introducing harquebus and muskets in other parts of the world. It was even common, in Asia, to find Portuguese mercenaries serving local rulers as a specialised and technical group. The image of these men carrying guns is represented in multiple places, from paintings to sculptures and engravings throughout Asia, and even in some of the famous Benin plaques<sup>33</sup>, which show their cultural reach.<sup>34</sup> However, it was not only the use of firearms that was disseminated but also its production. For instance, recent studies show how the *Estado da Índia* produced them in Sri Lanka during

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1480-1750", in James D. Tracy (Ed.), *City Walls: The Urban Enceinte in Global Perspective*, Cambridge, Cambridge University Press, 2000, pp. 386–416.

29 For instance, in the global view offered in Anke Fischer-Kattner and Jamel Ostwald (Eds.), *The World of the Siege. Representations of Early Modern Positional Warfare*, Leiden-Boston, Brill, 2019.

30 R. O. W. Goertz, "Attack and Defense Techniques in the Siege of Chaul, 1570-1571" in Luís de Albuquerque and Inácio Guerreiro (Eds.), *II Seminário Internacional de História Indo-Portuguesa. Actas*, Lisbon, IICT, 1985, pp. 265-92.

31 Richard M. Eaton and Phillip B. Wagoner, *Power, Memory, Architecture. Contested Sites on India's Deccan Plateau, 1300-1600*, New Delhi, Oxford University Press, 2014.

32 Sanjay Subrahmanyam, "The Kagemusha Effect. The Portuguese, Firearms and the State in Early Modern South India", *Moyen Orient & Océan Indien*, IV (1987), pp. 97-123. See also the article authored by John K. Thornton in this special issue.

33 Kathryn Wysocki Gunsch, *The Benin Plaques. A 16th Century Imperial Monument*, London-New York, Routledge, 2018.

34 There is yet to be done a study of this type of representation. However, some examples can be found in: Jean Deloche, *A Study in Nayaka-Period Social Life: Tiruppudaimarudur Paintings and Carvings*, Pondichéry, Institut Français de Pondichéry and École Française d'Extrême-Orient, 2011, pp. 62-66; Stefan Halikowski Smith, *Creolization and Diaspora in the Portuguese Indies. The Social World of Ayutthaya, 1640-1720*, Leiden-Boston, 2011, pp. 235-276; Pratyay Nath, "Terracotta Tales: Entangled Histories of Bhakti, Violence and Empire from Early Modern Bengal", *The Wire*, 4 September 2016, online: <https://thewire.in/culture/terracotta-ales-entangled-histories-of-bhakti-violence-and-empire-from-early-modern-bengal>, accessed on 30 October 2022.

the seventeenth century, since the high number of iron workers made it possible.<sup>35</sup> Far from there, the case of Japan is well known, since the introduction of these weapons had a considerable impact on the political and social order, according to the traditional view. However, recent studies by Nathan H. Ledbetter have also reassessed the famous example of the battle of Nagashino in 1575, showing that it must be re-evaluated according to a better understanding of the real dimension of the use of gunpowder arms. Hence, the question that remains is what was the real impact of these technologies on other societies and what was the role of the Portuguese in their diffusion? If the making of these firearms was so easy, why did local rulers still hire Portuguese mercenaries across Asia? Was it a simple way to use gunpowder weapons? Could it be a form of controlling the spread of these devices? Did the production of gunpowder and the gathering of its ingredients influence these matters?

As in other cases, this issue needs to be developed through more case studies, finding common links between regions and military practices. Looking beyond the Asian context, the Portuguese use of firearms in Brazil and Africa also had quite an impact. Regarding the tactical components of the Military Revolution, the colonial settings are even more difficult to integrate. Pitched battles were so rare that despite the transposition and/or adaptation of European manoeuvres and volley fire recorded in Portuguese sources, it was not very relevant in these extra-European contexts – a characteristic of these peripheral wars felt not only by the Portuguese.<sup>36</sup> Nonetheless, it was a slow and gradual process, in which guns gained stable importance across the centuries.

Last, in regard to gunpowder, the effectiveness of cannons, onboard and on land, is still a complex issue. As in Europe, its importance on the battlefield was not a relevant issue. Nonetheless, its use on board, through the use of broadside gunnery, is well documented in Portuguese sources since the beginning of the sixteenth century, as is its relevance in protecting fortresses when stationed on land. On this issue, José Virgílio Pissarra argued that the Portuguese navy already had a considerable stable ordnance, well standardised at the time, which shows how war was at the centre of the construction of the empire.<sup>37</sup>

35 Cenar Pirani, “The Military Economy of Seventeenth Century Sri Lanka: Rhetoric and Authority in a Time of Conquest”, PhD dissertation, University of California, 2016.

36 See other examples of these tactical difficulties in Dierk Walter, *Colonial Violence. European Empires and the Use of Force*, London, Hurst & Company, 2017.

37 José Virgílio Pissarra, “Portugal e o desenvolvimento das marinhas oceânicas. O galeão português, 1518–1550”, PhD dissertation, University of Lisbon, 2016.

If we look at the military personnel, the complexity of the colonial world expands. Adaptation to local circumstances and difficulties in mainland conscription also meant that the gross of the military effectives were composed of non-Europeans, as seems to have been the rule throughout most Portuguese colonial territories.<sup>38</sup> Again, not all colonial realities and respective periods have been given the same attention. In some cases, we are not aware of the actual composition of such military contingents. Additionally, their origin still raises doubts, as well as the reasons that motivated their military service. In addition to the occasional use of mercenaries, troops could be raised in the territories under Portuguese rule. In Asia, the territorialisation that started in Goa and the *Província do Norte*, in the first half of the sixteenth century, and later in Sri Lanka and Mozambique, provided new subjects to the Crown that could enter into the service of the *Estado* - a reality about which we also know little. Documents from Goa show local soldiers, under local captains, fighting for the Portuguese side since the 1520s.<sup>39</sup> The lack of soldiers even led to arming enslaved folks in India, diverging from local practices.<sup>40</sup>

This was also common in Brazil and in African colonies, with the integration of *mestiços* and the native population into the army as auxiliary forces (in Angola the so-called *guerra preta*), especially during the seventeenth century, with known episodes in the Dutch-Portuguese war, such as the reconquest of Luanda (Angola), in 1648, and Pernambuco (Brazil), in 1645-1654.<sup>41</sup> Abstracting our-

38 See, for instance, G. V. Scammell, "Indigenous Assistance in the Establishment of Portuguese Power in Asia in the Sixteenth Century", *Modern Asian Studies*, 14, 1 (1980), pp. 1-11, and "Indigenous Assistance and the Survival of the Estado da Índia", *Studia*, 49 (1989), pp. 95-115; René Barendse, "To Be a Servant of his Catholic Majesty: Indian Troops of the *Estado da Índia* in the Eighteenth Century", in Jos Gommans and Om Prakash (Eds.), *Circumambulations in South Asian History. Essays in Honour of Dirk H. A. Kolff*, Leiden, Brill, 2003, pp. 69-103; Catarina Madeira Santos and Vítor Luís Gaspar Rodrigues, "Fazer a guerra nos Trópicos: aprendizagens e apropriações. *Estado da Índia* e Angola, séculos XVI e XVIII," in *Jornadas Setecentistas*, São Paulo, CEDOP-DEHIS/UFPR, pp. 57-66; Mark Meuwese, *Brothers in Arms, Partners in Trade. Dutch-Indigenous Alliances in the Atlantic World, 1595-1674*, Leiden-Boston, Brill, 2012.

39 Arquivo Nacional da Torre do Tombo (Lisbon), Coleção de cartas, *Núcleo Antigo 876 – Cartas dos Vice-reis e Governadores da Índia*, n.º 35.

40 Stephanie Hassell, "Religious Identity and Imperial Security: Arming Catholic Slaves in Sixteenth- and Seventeenth-Century Portuguese India", *Journal of Early Modern History*, 26, 5 (2022), pp. 1-26

41 Evaldo Cabral de Mello, *Olinda restaurada: guerra e açúcar no Nordeste, 1630-1654*, Rio de Janeiro, Topbooks, 1998; Roquinaldo Ferreira, "O Brasil e a arte da guerra em Angola (sécs. XVII e XVIII)", *Estudos Históricos*, 39 (2007), pp. 3-23.



selves from a Euro-centred perspective, we can examine how the interest of the colonial elites influenced the recruitment process and, consequently, how these processes were negotiated at the bottom level. A more decentralised analysis, from a bottom-up perspective, can answer some of these questions.

### *Naval Warfare*

Between the fifteenth century and the War of Independence or Restoration against the Spanish Monarchy (1640-1669), warfare outside Europe accounted for most of Portuguese military experience.<sup>42</sup> At peace in Europe, Portugal made war mostly to create and sustain a distant overseas empire. This and the predominantly coastal and maritime nature of this empire during the 1500s favoured the development of a significant standing navy, which operated both in the Atlantic and in Asian waters.

This navy seems to have been an exceptional and pioneering organisation by European sixteenth century standards, both by its permanent, partly state-owned character and by its size and geographic range.<sup>43</sup> Comparable in its partly state-owned and permanent nature to Mediterranean galley fleets—the most significant European standing navies of the time—it differed from them in that it was an oceanic force structured around a core of large sailing vessels that had a much larger range than the galleys. It was thus based on what eventually proved to be the main naval innovation of the sixteenth century: the large cannon-armed full-rigged ship that would dominate open sea naval warfare until the advent of steam navigation.

In contrast, Portuguese land forces have seemed less impressive to many historians. They saw service mostly outside Europe, and the still-established historiographical view is that the prevalence of irregular warfare there and social and cultural habits prevented the development of drilling and discipline.<sup>44</sup> This resulted in Portuguese troops comparing unfavourably with the contemporary

42 Luis Costa e Sousa, “The 16th Century (1495–1600): The War on Land”, in Francisco García Fitz and João Gouveia Monteiro (Eds.), *War in the Iberian Peninsula, 700–1600*, London, Routledge, 2018, pp. 241–56; Vítor Luís Gaspar Rodrigues, “The 16th Century (1495–1600): Naval War”, in Fitz and Monteiro, ‘cit.’, pp. 256–66.

43 Jan Glete, *Warfare at Sea, 1500–1650: Maritime Conflicts and the Transformation of Europe*, London, Routledge, 2000, pp. 76–92; Francisco Contento Domingues (Ed.), *História da marinha portuguesa. Navios, marinheiros e arte de navegar, 1500–1668*, Lisbon, Academia de Marinha, 2012.

44 António Manuel Hespanha (Ed.), *Nova história militar de Portugal*, vol. 2, Lisbon, Circulo de Leitores, 2004.

professional standing Western European armies such as the Spanish Army of Flanders. It must be said that this somewhat Eurocentric view has its roots in the opinions of Portuguese contemporaries such as D. Francisco Manuel de Melo.<sup>45</sup> Still widely accepted, it reinforces a notion of sixteenth century Portugal as an essentially maritime, “thalassocratic” power, setting it apart in important ways from the Spanish Monarchy.

The comparison with Spain is a good way to frame Portuguese early modern naval history.<sup>46</sup> The two neighbouring Iberian powers were the first European states to build maritime multicontinental empires after the well-known exploration voyages of Columbus, Vasco da Gama and others in the fifteenth century. Nevertheless, Spanish conquests in America in the early sixteenth century gave the Spanish empire a territorial dimension from the start that its Portuguese counterpart lacked in the beginning. Additionally, unlike Portugal, the Spanish Monarchy was a significant European power, with a developed and sophisticated European army. However, it did not attempt to maintain a proper standing Atlantic navy for most of the 1500s, in contrast to its Portuguese neighbour. Its imperial expansion did not demand a naval effort comparable to that of Portugal in the Indian Ocean (most of its naval activity was concentrated in galley warfare in the closed-sea environment of the Mediterranean).

Mediterranean naval warfare aside, it thus seems that for most of the sixteenth century, Portugal had a more impressive naval record than its Spanish neighbour, which was in turn more proficient at land warfare. This distinction curiously resembles the one traditionally made between the Spanish Monarchy of Philip II (1556-1598) and the England of Elizabeth I (1558-1603). Like Portugal, England, a predominantly naval power with weak land forces (but without a colonial empire yet), would have faced in Spain a more “land-bound” adversary, with Europe’s best troops at its disposal. Of course, one of the obvious objections to this traditional distinction is that by the year of the so-called Spanish Armada, 1588, Portugal was on the Spanish Monarchy’s side, having joined it by 1580 (it remained a part of it until 1640, during the so-called Iberian Union period). Lisbon was the original departure point of the Armada and the core of its best fighting ships consisted of Portuguese galleons, including the flagship

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45 André Murteira, ‘The Military Revolution and European Wars Outside of Europe: The Portuguese-Dutch War in Asia in the First Quarter of the Seventeenth Century’, *The Journal of Military History*, 84, 2 (2020), pp. 511–35.

46 Hugo O’Donnell y Duque de Estrada (Ed.), *Historia militar de España, Tomo III: Edad Moderna. I. Ultramar y la Marina*, Madrid, Ministerio de Defensa, 2013.

and vice-flagship.

More importantly, the view of Spain as a land-bound, “thalassophobic” power has been strongly contested in recent decades, although more markedly for the post-Armada period. This does not change the fact that Spanish naval performance at the end of the sixteenth century and in the seventeenth century was ultimately disappointing. A great fleet-building effort designed to challenge at sea first England, then the Dutch Republic, failed to produce the desired results. A 1639 expedition against the Netherlands destroyed by the Dutch fleet in the English Channel sealed the end of the project for good. Spanish naval power declined after that and only began to recover in the eighteenth century.

The ultimately defective naval performance of the Spanish Monarchy against the rising Northern European powers is a classical historical question that has been approached by several Spanish and non-Spanish historians.<sup>47</sup> Portugal’s part in the process, however, has not received enough attention, despite it having been a part of the Monarchy during the whole crucial era between the 1588 Spanish Armada and the 1639 expedition against the Netherlands. Recent and still little-known contributions by mostly Portuguese historians shed some light on the subject.<sup>48</sup> The most striking fact about it is the apparent naval decline of Portugal in the period. If Portuguese galleons were at the forefront of the Armada in 1588, Portuguese participation in the 1639 armada was much less significant. That may have had to do with the parallel dispatch of another great Portuguese-Spanish armada to Brazil, but other signs point to a decrease in Por-

47 There follows a non-exhaustive list: José Alcalá-Zamora y Queipo de Llano, *España, Flandes y el Mar del Norte, 1618-1639*, Madrid, Centro de Estudios Políticos y Constitucionales, 2001; I.A.A. Thompson, *War and Government in Habsburg Spain, 1560-1620*, London, Athlone Press, 1976; Carla Rahn Phillips, *Six Galleons for the King of Spain: Imperial Defense in the Early Seventeenth Century*, Baltimore, Johns Hopkins University Press, 1986; Robert A. Stradling, *The Armada of Flanders. Spanish Maritime Policy and European War, 1568-1668*, Cambridge, Cambridge University Press, 1992; David Goodman, *Spanish Naval Power, 1589-1665: Reconstruction and Defeat*, Cambridge, Cambridge University Press, 1997; Glete, *War and the State in Early Modern Europe*, ‘cit’.

48 Leonor Freire Costa, *Naus e galeões na ribeira de Lisboa. A construção naval no século XVI para a Rota do Cabo*, Cascais, Patrimonia, 1997; Leonor Freire Costa, *O transporte no Atlântico e a Companhia Geral do Comércio do Brasil, 1580-1663*, Lisbon, Comissão Nacional para as Comemorações dos Descobrimentos Portugueses, 2002; Augusto Salgado, *Os navios de Portugal na Grande Armada: o poder naval português, 1574-1592*, Lisbon, Prefácio, 2004; Augusto Salgado, “Portugal e o Atlântico: organização militar e ações navais durante o período filipino (1580-1640)”, PhD dissertation, University of Lisbon, 2009; Pissarra, ‘cit.’; Koldo Trápaga Monchet, ‘Guerra y deforestación en el reino de Portugal (siglos XVI-XVII)’, *Tiempos Modernos. Revista electrónica de Historia Moderna*, 39 (2019), pp. 396–425.

tuguese naval capacity, including the use of ships made in Spain in Portuguese armadas. For instance, the first quarter of the seventeenth century saw a significant effort to supply Portuguese naval forces in Asia with fleets of galleons from Europe. Although the exact figures are not known, a good part of these galleons seem to have been made in Northern Spain. Similarly, in a group of four great naval relief expeditions to Brazil between 1625 and 1639, Spanish ships were in the majority.<sup>49</sup>

It seems thus that Portugal was clearly overtaken by Spain in fleet-building capacity, despite its initial advance. The great fleet-building effort by Spain seems to have been only a part of the explanation. A parallel crisis in Portuguese shipbuilding capacity would have been a cause as well. A deforestation problem in southern Portugal was among the reasons for this crisis. However, the problem primarily affected the so-called *Carreira da Índia*, the fleet system responsible for the annual sailings that took place between Portugal and Asia by the way of the Cape of Good Hope Route. The *Carreira* also went through a crisis in this period, and deforestation was one of its causes.<sup>50</sup> It has been suggested that the need to focus on shipbuilding for the *Carreira* was what made Portugal's naval forces dependent on Spanish naval relief.<sup>51</sup> Spanish influence on Portuguese shipbuilding practices would have also adulterated a Portuguese tradition of building specialised warships.<sup>52</sup>

The link between the state of Portuguese naval forces and the situation of the *Carreira* is vital to the understanding of the peculiar nature of the Portuguese navy. It might have been a precociously permanent, largely state-owned organisation, but it was also kept as a sort of parallel organisation to the royal merchant fleet of Indiamen that served in the *Carreira* (voyage on the route was, in principle, a privilege exclusive to the king's ships, although private ships could also be licensed to join).<sup>53</sup> The logistics, as well as the shipbuilding, of both were taken care of by the same organisation, the *Armazéns da Índia*, in a very Lisbon-centred system. It was possible to resort to other shipbuilding centres for the building of both warships and Indiamen, but only in limited numbers.<sup>54</sup>

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49 Armando da Silva Saturnino Monteiro, "The Decline and Fall of Portuguese Seapower, 1583-1663", *The Journal of Military History*, 65, 1, 2001, p. 9-20 (12).

50 Costa, *Naus e galeões*, 'cit.', pp. 186-95; Monchet, 'cit.'.

51 Salgado, *Portugal e o Atlântico*, 'cit.', pp. 47-49, 263-67.

52 Salgado, *Portugal e o Atlântico*, 'cit.'; Pissarra, 'cit.'.

53 Salgado, *Portugal e o Atlântico*, 'cit.', pp. 31-32, 267; Pissarra, 'cit.', pp. 41-42, 360.

54 Costa, *Naus e galeões*, 'cit.'.

Spanish naval assistance was not enough to avoid a series of naval and military setbacks that afflicted the Portuguese overseas empire in the period. After Dutch overseas expansion took off in the 1590s, Portugal lost several important positions in Brazil, West Africa and Asia to the recently formed Dutch East India Company, or VOC (1602), and West India Company, or WIC (1621). These losses were far worse than anything suffered by the Spanish overseas domains in America and in the Philippines.

Another obvious link of the Portuguese navy to the *Carreira da Índia* was the importance of Asian waters as a theatre of operations. From the beginning of the sixteenth century, an important part of Portuguese warships was always stationed in Asia. There were moments when the Asian fleet may have surpassed the Atlantic fleet, such as by the end of the 1520s.<sup>55</sup> From early on, the Portuguese in Asia developed significant shipbuilding capacities in Western India, so part of the ships stationed in the East, including full-rigged ships, were built locally. The transfer of European-built warships from Portugal to Asia remained quantitatively significant during the first half of the sixteenth century but dropped drastically in the second.<sup>56</sup>

The increase in naval self-sufficiency in Asia might have played in Portugal's favour, in light of the late sixteenth century crisis in shipbuilding in Portugal. However, a less known parallel crisis seems to have afflicted Portuguese shipbuilding activity in India around the same time.<sup>57</sup> This impaired Portuguese ability to rise to the challenge represented by the arrival of the Dutch East India Company in Asia after 1602. The already mentioned resort to the sending of Spanish galleons to Asia is explained by this double crisis of Portuguese shipbuilding in Portugal and India.

It proved not to be a solution, however. A structural aspect of the crisis was the worsening situation of the *Carreira da Índia*, with an increase in shipwrecks and otherwise aborted voyages of ships on the route. However, this also affected ships built outside Portugal and its empire. A series of eleven relief fleets of galleons sent east between 1601 and 1629 failed to produce many results, since many of the relief ships - including galleons made in Spain - foundered

55 Pissarra, 'cit.', p. 407.

56 Paulo Guinote, Eduardo Frutuoso, and António Lopes, *As armadas da Índia: 1497-1835*, Lisbon, Comissão Nacional para as Comemorações dos Descobrimentos Portugueses, 2002.

57 André Murteira, "A navegação portuguesa na Ásia e na Rota do Cabo e o curso neerlandês, 1595-1625", PhD dissertation, New University of Lisbon, 2016, pp. 255-58.



on the way or aborted their voyages, returning to Portugal.<sup>58</sup> The resultant lack of proper naval means was an important factor behind a series of Portuguese defeats to the VOC, its Asian allies and other Asian powers between 1638 and 1663. Many positions were lost, and the Portuguese empire in Asia was reduced to a marginal affair.

It seemed for a time that something similar was at risk of happening in the Atlantic, where large parts of North-eastern Brazil and important West African positions were also lost to the Dutch West India Company after 1630. However, a successful rebellion by Portuguese settlers in Dutch Brazil against the Company in 1645 led to the retaking of most lost positions. Unlike what happened on land, there were no important Portuguese naval victories over the Dutch, but successful mobilisation of naval resources was essential, both for the carrying of expeditionary forces and for the organisation of escorted convoys against Dutch privateering.<sup>59</sup> This suggests that naval resources were still available despite deforestation problems. Explanations of the crisis of the *Carreira* and the navy that focus exclusively on deforestation may therefore be too monocausal.

If there is a conclusion to be drawn from this brief historiographical summary, it is that the existing state of the art does not yet seem to satisfactorily answer one important question raised by Portuguese naval history in the period: why did Portuguese naval power seem to have declined relatively vis-à-vis that of its Spanish neighbour during the Iberian Union period? This Iberian “little divergence” has been obscured by the attention traditionally paid to the larger question of general Iberian decline vis-à-vis the new Northern European naval powers. However, this deserves further study. If we accept the established view that there was an opposition between a thalassocratic Portugal and a more land-bound Spanish Monarchy in the sixteenth century, then the subsequent divergence may make us question views that see naval expansion as a prerequisite for state formation and the development of “fiscal-military states” or “fiscal-naval states” such as the Dutch Republic and England in the seventeenth century and eighteenth centuries.<sup>60</sup> That may have been true, but Portugal’s divergent trajectory offers a counterexample that should also be taken into account. This is especially important in view of the fact that Portuguese historiography has long argued that Portuguese imperial—and consequently naval—expansion worked

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58 Murteira, *The Military Revolution*, ‘cit.’, pp. 527–31.

59 Mello, *Olinda restaurada*, ‘cit.’; Costa, *O transporte no Atlântico*, ‘cit.’.

60 Glete, *Warfare at Sea*, ‘cit.’, pp. 60–65; N.A.M. Rodger, “From the ‘Military Revolution’ to the ‘Fiscal-Naval State’”, *Journal for Maritime Research*, 13, 2 (2011), pp. 119–28.

as a conservative factor in Portugal by preventing social and fiscal change and thereby inhibiting state-formation in general.<sup>61</sup>

### *Afterthoughts*

If we attempt to sum up these three different overviews, we can conclude that it is difficult to sustain that the Portuguese case supports the case for a link between an alleged military revolution and unilinear state formation, since state formation does not seem to have been very developed, either in Portugal or in its empire. While it is possible to argue that the scale of Portuguese land forces, even in its overseas empire, was not comparable to that of other European powers, the same can no longer be said of its naval forces, a highly extensive and developed organisation by the standards of the time - but which failed to produce a “fiscal military state” or a “fiscal naval state” comparable to the later English and Dutch cases. Having said that, however, it should be added that the weakness of state formation in Portugal, widely accepted until recently by the most relevant historiography on the subject, has been questioned of late. Nevertheless, the most promising fields of research, such as the collaboration on the Portuguese military effort of private contractors or of colonial elites, clearly go against simplistic notions of state formation, stressing instead the continuing dependence of states on the cooperation of private agents.

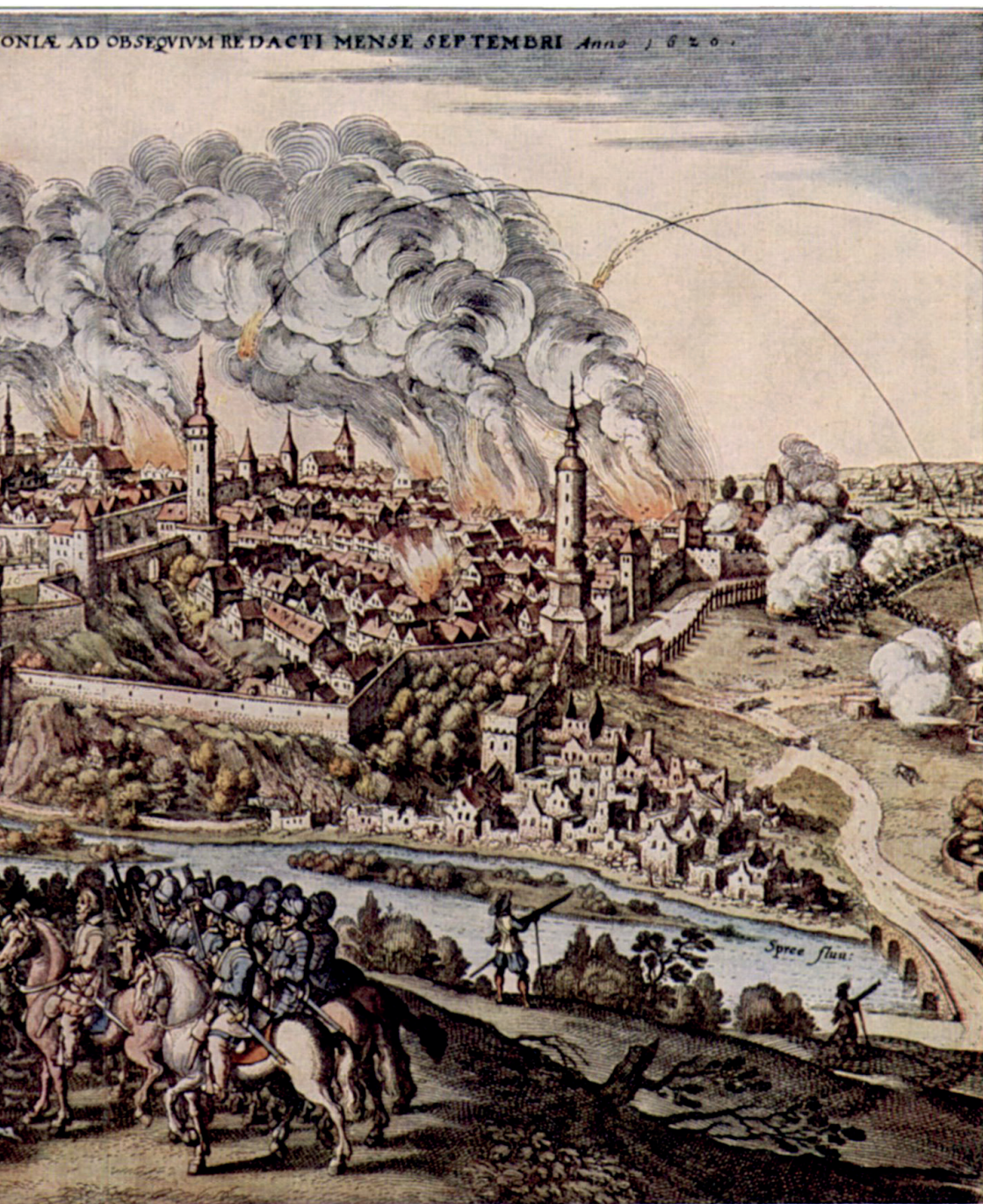
Similar caution should apply to claims for a link between a military revolution and alleged Western military superiority. The early development of the Iberian overseas empires makes the Portuguese (and Spanish) case especially relevant for this discussion. Regarding fortresses, individual firearms, artillery, battle tactics and the use of local forces, qualifications abound, and a more nuanced picture emerges, suggesting limitations to Western exceptionalist views. Naval history, of course, is the field where the Portuguese case is still deemed more significant. Even there, however, the current state of the art paints an increasingly complicated picture, which does not corroborate pre-existing models, such as those that posit a clear link between the growth of naval power and the development of fiscal-military states.

61 Vitorino Magalhães Godinho, “Finanças públicas e estrutura do Estado”, in *Ensaio*, vol. 2, Lisbon, Livraria Sá da Costa Editora, 1978, pp. 29–74; Pedro Lains, Leonor Freire Costa, and Susana Münch Miranda, *An Economic History of Portugal, 1143–2010*, Cambridge, Cambridge University Press, 2016, pp. 94–100.



Mattäus Merian (1593-1650), Siege and capture of Bautzen by the Elector of Saxony, John George I (1585-1656). Source: Wikimedia Commons









Johann Jacob von Wallhausen, *Kriegskunst zu Pferd*. Darinnen gelehrt werden die initia und fundamenta der Cavallerie, aller vier Theylen: als Lantzierers, Kührissierers, Carabiners und Dragoons, was von einem jeden Theyl erfordert wird, was sie prästiren können sampt deren exercitien. Neue schöne Inventionen etlicher batailen mit der Cavallery ins Werkzu stellen. Mit dargestellten Beweistumpen, was an den edlen Kriegskunsten gelegen und deren Fürtrefflichkeiten über alle Kunst und Wissenschaften, erschien 1616 in Frankfurt am Main (2.Auflage bereits 1634 ebenda). <https://hroarr.com/temp/2011-site/articles/wallhausen/Wallhausen-Johann-Jacobi-von-1614-04.jpg>



## Early Modern Military Revolution: The German Perspective

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**ABSTRACT.** The idea as well as the discussion of a Military Revolution has been received in German historiography only very late. It took more than thirty years after all because the conception of a Military Revolution was hardly taken up or transferred to the German and Central and Eastern European conditions. The tardy discussion was primarily due to the Germans' attitude toward war and the military. Germans were reluctant to confront the fact that military developments and innovations had contributed to technological progress and the rise of the West, and thus to the superiority of the West in the wider world. In order to be able to deal with the military, which has existed at all times and which played an important role in the history of the early modern period in every respect, the social and cultural elements inherent in the military were therefore examined within the framework of a "New Military History." This was and is done on a very broad basis. The investigations have indeed considerably expanded our knowledge of the connections between the military and civilian life, the military and the emerging modern society. However, the „New Military History“ has hardly contributed anything to the military in times of war, or to strategic, tactical, and operational questions, questions which were fundamental for the Military Revolution.

When Michael Roberts' article "The Military Revolution 1560-1660" appeared in German in 1986, it was one of fourteen contributions in the volume "Absolutismus" edited by the historian Ernst Hinrichs and the only one on the army system of the 16th and 17th centuries.<sup>1</sup> His contribution was then already thirty years old. Roberts had presented his idea of technological change in the military field resulting in political and social change as a lecture at Queen's University of Belfast in 1955 and written it up the following year.<sup>2</sup> The article soon sparked an interested discussion in the English-speaking world, which

1 Michael Roberts, *Die militärische Revolution 1560-1660*, German translation in Ernst Hinrichs (ed.), *Absolutismus*, Frankfurt am Main Suhrkamp, 1986, pp. 273-309.

2 Michael Roberts, *The military revolution, 1560-1660: An inaugural lecture delivered before the Queens's University Belfast*, Belfast, Marjory Boyd, 1956.

ebbed and flowed in waves. Probably because Roberts' interpretation, on the basis of its discussed observations, "could be considered stimulating or exemplary" for the development in the military field as well as in the field of the consolidating state, Ernst Hinrichs had included the text of the British historian in his reflections on "absolutism" and considered Roberts' remarks valuable for the volume. Roberts' idea, however, appeared to the German reader at the time to be ten years younger than it actually was, because the text was not quoted according to the original publication of 1956, but according to Roberts' collected and specially edited "Essays in Swedish History" from 1967.<sup>3</sup>

The fact that Michael Roberts' account was not noticed in Germany for such a long time, neither in the Federal Republic of Germany nor in the German Democratic Republic (GDR), and that Roberts' theory had thus not been discussed, is due to the Germans' and Germany's relationship to the military. It was and still is a difficult, often unrealistic relationship. Germans would prefer not to deal with weapons or soldiers an almost never with war. To do so, however, is for many Germans already morally indefensible, even reprehensible. The reason for this are the two lost world wars and the German guilt at the beginning of these wars, above all the blame for the second world war, to which the approval of the majority of the Germans to the national socialist state had contributed substantially. The way in which the German Wehrmacht had waged the war, especially in the East, namely as a war of extermination, also plays a major role in the rejection of a preoccupation with the military and military issues. People in Germany today always want to be on the side of peace. They want to achieve solutions to conflicts by diplomatic means alone. They want to "create peace without weapons," as the motto of the German peace movement used to be, which, if one looks at the actions of the last decade, apart from the Kosovo conflict, has also been adopted by German politicians.

After 1945, with the consequences of the Nazi regime and the second world war in mind, weapons and weapons bearers were therefore viewed critically or even dismissively in wide circles of the German population. People distanced themselves as much as possible and as far as possible from armies and soldiers. The establishment of the Bundeswehr, the German Armed Forces, was opposed by many in the Federal Republic. This attitude hardly changed even after the foundation of the Bundeswehr in 1955. Military defense was necessary, as far as most people there understood, but this defense should best be taken over by

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3 Michael Roberts, *Essays in Swedish history*, London, Weidenfeld & Nicolson, 1967, pp. 199-225.

the former victorious powers, the United States of America and Great Britain, which were now allied with the Germans. In the GDR, however, things looked somewhat different after the founding of the National People's Army (Nationale Volksarmee) in 1956. Here, according to the state doctrine, the relationship of the population to the military should be better and had to be better, closer. This above all because of the weapons successes of the "brother state" Soviet Union in the Second World War, which were to be praised. But even in the GDR, quite a few people rejected weapons and the entire army.

To this day, even under the impression of the Russian attack on Ukraine, Germans and most of their politicians have a hard time with soldiers, armies and war. They would prefer to have nothing to do with it. As can be seen from the hesitant behavior at the top of the state, especially on the part of the chancellor, during Russia's war against Ukraine, a majority of them try to avoid any contact with the military and military matters - no matter how necessary the opposite may be.

For a very long time, this way of thinking also applied to historical research on questions of military history. Wars, armies, soldiers and their influence on the course of history were, apart from the Second World War and its universally catastrophic, devastating consequences, little or not studied at all in the Federal Republic of Germany. And in the German Democratic Republic, where, from an ideological socialist point of view, research was at least conducted on the Peasants' War of the 16th century and the anti-Napoleonic War of Independence at the beginning of the 19th century, the "feudal-absolutist" army and the changes in the authoritarian or feudal state that emanated from it were also of little interest for a long time. Here, most attention was paid to the history of the "working people". It is therefore not surprising that the "military revolution" as seen in the english speaking world received virtually no attention in Germany.

It was not until 1990 that Geoffrey Parker's book "The Military Revolution. Military innovation and the rise of the West 1500-1800" made the term "military revolution" known to wider circles in Germany because this work had been translated into German under the title: "Die militärische Revolution. Die Kriegskunst und der Aufstieg des Westens 1500-1800."<sup>4</sup> Parker's English title had thus not been translated literally. Military innovation, as it was called in the subtitle, had been omitted; innovation triggered by changes in the military field was apparently preferred not to be emphasized.

In the course of his research on the Spanish army during the Dutch Revolt,

4 Geoffrey Parker, *Die militärische Revolution: Die Kriegskunst und der Aufstieg des Westens 1500-1800*, Frankfurt am Main, Campus, 1990.

Parker had come to the conclusion that the organization of the Spanish tercios already exhibited characteristics such as Roberts' had later observed only in the example of the Swedish army. Parker also pointed to developments in naval warfare, shipbuilding, and naval tactics, and emphasized the importance of fortifications and sieges, respectively, to political and social change in the early modern period. He had not challenged the changes elaborated by Roberts, but had already advanced the period in which technical and tactical developments began to take place to the late 15th and early 16th centuries and had expanded the areas of change that were observed.

In 1991, Jeremy Black's continuing reflections in his small volume "A Military Revolution? Military change an European society 1550-1800" deliberately challenged Roberts's and Parker's research findings.<sup>5</sup> He did so by expanding his view beyond the previously accepted epochal boundary of the Military Revolution into the late 17th century and the 18th century. He argued that a significant and widespread increase in the number of troops did not take place until after 1660, that the modernization of infantry weapons, especially the rifle - flintlock instead of fuse, dill bayonet and finally iron ramrod - did not take place until that year, that the conditions in eastern Europe had not been taken into account, or only marginally, in previous studies, and that Europe's extensive, globe-spanning, decisive influence on the world had not existed until the 18th century, and in fact had only been established since the 19th century. He sees in the described processes not so much a military revolution as a military change progressing by process. Black's important work, however, has not been translated into German.

And similarly, a few years later Clifford J. Rogers' 1995 book "The Military Revolution Debate", documenting the English-language discussion, did not find a German translation.<sup>6</sup> Rogers, who had researched and written about the Military Revolution in the Hundred Years War, published in a coherent way in this volume the paradigmatic contributions to the topic as well as contributions to the various aspects of the Military Revolution, concluding with Geoffrey Parker's afterword to the second edition of his Military Revolution book: "In Defence of the Military Revolution."

Because neither book is published in German, their circulation and notice in the German speaking world remained limited. There was therefore no easy

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5 Jeremy Black, *A Military Revolution: Military change and European society 1550-1800*, Houndmills, Macmillan Press Ltd., 1991.

6 Clifford J. Rogers (ed.), *The Military Revolution Debate: Readings on the Military Transformation of Early Modern Europe*, Boulder, San Francisco, Oxford, Westview Press, 1995.

and good point of contact for a German discussion of the concept of a Military Revolution.

The idea and concept of a military revolution between 1500 and 1800 have therefore received only marginal attention in Germany and, for this reason, have hardly been included in military-historical works on the early modern period. It was not until 2002 that a book by Jürgen Luh, “Ancien Régime Warfare and the Military Revolution,” appeared, albeit in the Netherlands and in English.<sup>7</sup> It examined the extent to which the arguments and findings of Roberts, Parker and Black could also be found in the armies and warfare of Central and Eastern Europe, and whether the Military Revolution had made an impression there as well. It was about the supply of troops, fortress construction, even beyond the *trace italienne*, and the further development of firearms and their impact. Naval aspects were not considered.

The study showed that there was a continuous development of weapons in technical terms, in the construction of fortresses, in the idea and the way of supplying troops and in the medical system. Muskets and their locks were improved, the fortresses became more deliberate and larger, their works occupied more and more space. But light field fortifications, such as the “wooden” lines that stretched over hills and through forests in the German Black Forest, for example, and the forts built of logs in southeastern Europe, erected by the Ottomans as well as by the Central Europeans, were equally important in the military conflicts on the European continent. It was a evolutionary rather than a revolutionary process that was identified during this period. This corresponded largely with Jeremy Black’s identification of different “revolutionary periods” between 1470-1530, 1660-1720, and 1792-1815 (in Rogers 110). All these developments, however, according to the result and thesis of the study, did not result in a single battle deciding a war in the 18th century. Ultimately, the exhaustion of armies and military assets on both sides, followed by diplomacy, decided each conflict during this period. But this did not go unchallenged. The book was noticed only in English-language military science sometimes. In German historical research it was almost not received at all in the first ten to fifteen years after its publication.

As an academic research work on the major topic of the Military Revolution, only one other work appeared in Germany, the dissertation by Thomas Wollschläger “Die Military Revolution und der deutsche Territorialstaat. Deter-

7 Jürgen Luh, *Ancien Régime Warfare and the Military Revolution. A Study*, Groningen, INOS, 2000.



minanten der Staatskonsolidierung im europäischen Kontext 1670-1740“ written in Halle in 2002 and published in Norderstedt in 2004.<sup>8</sup> Wollschläger was interested in the question of whether the states and territories of Austria, Russia, Poland, Prussia, Saxony, or Bavaria, which have been largely ignored in the English-language debate of the Military Revolution, “were not or less affected by the ‘Military Revolution’.”<sup>9</sup>

In his book, he therefore examined the question of what effects unfolded when the concept of the Military Revolution was transferred to other, in this case German, regions that had previously been considered little or not at all within the object of study. He wanted to know whether there were developments in the Kingdom of Prussia, on the one hand, and in the Electorate of Saxony, on the other, brought about by the Military Revolution that strengthened Prussia and Saxony, respectively, “vis-à-vis other [states] in terms of power politics.” He was also interested in whether these territories as a result of revolution-related developments could rise to become serious states in the European conflict of powers or even could rise into the circle of great powers.<sup>10</sup> To answer his questions, Wollschläger considered fortress construction, and military engineering, and naval affairs as well, but without placing greater emphasis on them, since Saxony had no maritime borders and Prussia basically had only a very limited fleet.

Wollschläger summarized the results of his study in seven theses:

1. A decisive developmental phase of state consolidation in the early modern period with regard to the development of “modern states,” measured in terms of the German territorial states, was the period from 1670 to 1740. During this period, the “absolutist” state system took shape. This observation would correspond to the developmental phases of the Military Revolution as formulated by Jeremy Black.
2. A number of criteria that already belonged to the first, original concept of the Military Revolution, such as the extensive introduction of firearms into European warfare, the increase in the number of troops, the changed role of the different types of weapons or the emergence or disappearance of certain types of weapons, as well as the scientification of warfare, can be transferred without further ado to almost all European states, including

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8 Thomas Wollschläger, *Die Military Revolution und der deutsche Territorialstaat. Determinanten der Staatskonsolidierung im europäischen Kontext 1670-1740*, Norderstedt, Books on Demand GmbH, 2004.

9 Wollschläger, *The Military Revolution*: p. 8.

10 Wollschläger, *The Military Revolution*: p. 24.

the states of Central Europe, including Brandenburg-Prussia and Saxony. These innovations or changes had been completed or effective by the second half of the 17th century. The “original” Military Revolution had represented a phase of military development and consequences that preceded the formation of the “absolutist states.”

3. The more precisely the criteria for the existence of a Military Revolution had been formulated and the further the revolutionary had been pushed into the period after 1670, the less the concept was transferable to the German territorial states in the criteria of fortress construction, military engineering, and naval and maritime warfare.
4. The transfer of structures from the area of the Military Revolution in Western Europe to Central and Eastern Europe had not meant a similar development. In Saxony, for example, the construction of fortifications and engineering was based on other models and, it must be added, took into account, among other things, the experience of the campaigns against the Ottomans at the beginning of the 18th century. Saxony was also not prepared to put as much financial resources as other states into its military.
5. From the second half of the 17th century onwards, there had been “measurable changes” in the relationship between the military and society, in terms of the sparing of land by the military, or the “civilization of the military.” There had also been an attempt to identify which military and administrative elements, present in other states but not necessary for one’s own, could be economized.
6. Saxony and Prussia had reacted differently to the new challenges that arose, especially in the question of recruitment and thus in the increase of the army. While Prussia had administratively introduced the cantonal system, which had contributed to a consolidation of the state, Saxony had lagged behind in this development phase.
7. The independent developments that could be called “military-revolutionary developments” that “established the different position of Saxony and Prussia in terms of military strength, a consolidated state and administrative system, and a different role in the European context around the middle of the eighteenth century” and which made Prussia one of the great powers in Europe took place alongside the elements of the Military Revolution highlighted for Western and Southern Europe.

The concept of a Military Revolution, Wollschläger concluded, was “not

readily transferable to the conditions of the German territorial states.<sup>11</sup>

Wollschlaeger's book, basically the only German book that dealt with the debate about the Military Revolution and tried to transfer the results of the debate or at least aspects of the debate and the revolution to the conditions in the Holy Roman Empire, was apparently not received at all in the English-speaking world. But even within German historiography, Wollschläger's study received very little, if any, resonance.

In the 2013 Encyclopedia of German History, written by Bernhard R. Kroener, which dealt with warfare, rule and society, neither Luh's book nor Wollschläger's were even mentioned in the section "Basic Problems and Trends in Research."<sup>12</sup> Kroener ignored both books, as well as Luh's book "Kriegskunst in Europa 1650-1800" from 2004, which was based on "Ancien Régime Warfare and the Military Revolution."<sup>13</sup> He also missed out on "Wissenschaft und Technik im Dienst von Mars und Bellona" (Science and technology in the service of Mars and Bellona), a volume in which three articles reflected the discussion of the Military Revolution.<sup>14</sup>

Kroener held the only professorship in military history in Germany at the time. He stated simply, "discussions of the objects and scope of the 'Military Revolution' had gone largely unnoticed on the European continent until the 1980s. [...] Continental European research was critical of the notion of a clearly definable military revolution in the face of divergent national research traditions." "Continental European research had based "its view primarily on a divergent weighting of military innovation processes and a recognizable temporal as well as spatial phase shift in the process of change of military organizational structures."<sup>15</sup>

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11 Wollschläger, *The Military Revolution*: p. 161.

12 Bernhard R. Kroener, *Kriegswesen, Herrschaft und Gesellschaft 1300-1800*, München, Oldenbourg Verlag, 2013.

13 Jürgen Luh, *Kriegskunst in Europa 1650-1800*, Köln, Weimar Wien, Böhlau Verlag, 2004.

14 Dirk Götschmann, Ansgar Reiß, *Wissenschaft und Technik im Dienst von Mars und Bellona: Artillerie und Festungsbau im frühneuzeitlichen Europa*, München, Schnell & Steiner, 2013. In this volume the contributions of Dirk Götschmann, *Die Feuerwaffen der Frühen Neuzeit im Historischen Kontext: Umrisse eines interdisziplinären Forschungsprojekts*, pp. 11-27; Daniel Hohrath, *Vom Büchsenmeisterhandbuch zum System der Artilleriewissenschaft: Professionalisierung und Verwissenschaftlichung des Militärwesens in der Frühen Neuzeit*, pp. 111-131; Bogusław Dybaś, *Die Festungen der Republik: Verfassungsrechtliche und politische Aspekte des Festungsbaues in Polen-Litauen im 17. Jahrhundert*, pp. 145-152.

15 Kroener, *Kriegswesen*: p. 69.

Kroener reviewed the English-language debate as it had developed by 2013 in the encyclopedia, which was intended as an overview and resource primarily for students. He considered the “conceptual history” of the Military Revolution, introduced Michael Roberts’ research interest in Swedish history and his approach, and likewise its two “crown witnesses” Werner Hahlweg and Gerhard Oestreich, who had dealt with the Orange Army Reform and Neo-Stoicism as a political movement. Kroener subsequently drew an undeveloped line to Max Weber’s Protestant ethics and to Gerhard Oestreich’s concept of “social disciplining.”<sup>16</sup> He then introduced “The Object and Scope of the Military Revolution” and detailed the revolution’s inherent element of technological change as a fundamental aspect in the genesis of the early modern state.<sup>17</sup> After discussing Jeremy Black’s “extension of the ‘Military Revolution’ to 1760” and Clifford J. Rogers’ extension of at least the “Infantry Revolution” into the 14th century, Kroener more broadly presented the social and mental history aspects of the Revolution over the now long period from 1300 to 1800 that particularly interested him.<sup>18</sup> Picking up on Rogers’ train of thought, he summarized: “In view of a development characterized by different spurts of change and spanning half a millennium, Rogers finally said goodbye to the concept of revolution” and postulated instead the concept of a “punctuated equilibrium evolution” oriented on evolutionary theory, according to which “not only between 1300 and 1800 short-term spurts of change alternated with longer phases of stagnation.”<sup>19</sup> Kroener clearly sympathized with this interpretation and regretted that, despite all efforts, the “catchier term” of Military Revolution could not be suppressed.

Kroener concluded his overview by noting that within historical scholarship, the concept of the Military Revolution had remained confined to the field of military historical research. Within sociological research and economic history, however, it had become “an almost classical explanatory model of economic and social structural changes in modern societies and international relations.”<sup>20</sup>

In Germany, since the 1960s, the Anglo-Saxon explanatory model of the “Military Revolution” and the ideal-typical construct of social disciplining described as an early modern fundamental process developed by Gerhard Oestreich had stood in opposition to each other with regard to early modern ideas of

16 Kroener, *Kriegswesen*: pp. 62-64.

17 Kroener, *Kriegswesen*: pp. 65-67.

18 Kroener, *Kriegswesen*: pp. 67-70.

19 Kroener, *Kriegswesen*: p. 70.

20 Kroener, *Kriegswesen*: p. 72.

state formation. However, if you read between the lines in Kroener comments, both concepts are compatible. According to Kroener, the idea of a military revolution is ultimately based on the formation of internal military discipline as a component of the emerging monopoly on the use of force by the early modern state. In this context, the idea of the Military Revolution constructs a functional connection between necessary administrative institutions in the field of recruitment, logistics, military technology (fortifications, artillery) and the warfare doctrines they determine.

In contrast, the paradigm of social disciplining refers to processes of rationalization and modernization without, however, explicitly addressing their driving forces, which are to be located in the military sphere. In view of Germany's past, World War I, National Socialism, World War II, Oesterreich probably shied away from doing so. "Only in recent years, research in Germany has adequately recognized (and wanted to recognize) the functional and essential connections between state-building, social disciplining, and military revolution," Kroener summed up, quoting a 1999 sentence by Ralf Pröve.<sup>21</sup>

And among those who recognized said connections and used it for German military history research were Kroener and Pröve. Both had been responsible for "Military History and the Cultural History of Violence" at the University of Potsdam since 1997 and 2005, respectively. Kroener, at that time, held the only chair in military history in Germany. Looking at the German concept of social disciplining and thus at how people became soldiers, and how these soldiers were then disciplined in the interests of the state Kroener and Pröve were less interested in military history in terms of the military itself and military technology aspects than in the social aspects of the military society. The question they raised was how the military was part of early modern society and how it shaped society. Central to their own research and to the research they stimulated in Germany was a demand that Ernst Willi Hansen had made in 1979 in a major research report that summarized the German occupation with military history after the war: "Military history oriented toward social history must see the military as part of society as a whole and work out interdependencies between the military system and the social order."<sup>22</sup> This meant turning away from the ancient military history research, usually oriented towards Prussia, which had intensively and primarily dealt with, analyzed and depicted campaigns, operations, battles and engagements. That meant establishing a "New Military History" in Germany.

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<sup>21</sup> Kroener, *Kriegswesen*: pp. 89-90.

<sup>22</sup> Kroener, *Kriegswesen*: p. 91.



As a result, it was not so much the questions raised by the concept of the Military Revolution that found their way into new German military historical research, but questions concerning the history of mentality, everyday life and culture. These questions made it possible to draw on sources from other than military provenances for the consideration and analysis of military historical processes.

“Within the early modern form of life,” according to Kroener, “the military formed a complex submilieu that exhibited varying degrees of intersection with other submilieus.” An “in-depth knowledge of the sectoral areas of individual social milieus constituted by military forms of life,” he stated, seems indispensable if one wants to “arrive at a comprehensive and accurate assessment of the values, orientations, and interpretations of the meaning of social realities in early modern society.”<sup>23</sup>

This expansion of the field of research in this sense since the beginning of the 1990s led step by step to a broader acceptance of military historical research in Germany in general, but especially within the field of the early modern period. The new buzzwords were now and still are “military and society” as well as, specified in terms of cultural studies, “military in the society”. Thereby, despite all efforts to the contrary, the borders of military history to the “general, cultural-scientifically oriented history of violence,” as Kroener stated, are not easy to draw. Indeed, these boundaries are sometimes crossed. What is essential, however, is that by extending the field of research to general society, military history in Germany is “no longer perceived as a rather esoteric marginal phenomenon of the discipline, but as an integral part of historical science.”<sup>24</sup>

In the mid-1990s, Kroener himself and Pröve gave momentum and a basis to the new military history oriented toward social history through their publications, a conference with subsequent conference proceedings, and the founding of the still active “Arbeitskreis Militär und Gesellschaft in der Frühen Neuzeit.” In a volume edited by them in 1996, “Krieg und Frieden: Militär und Gesellschaft in der Frühen Neuzeit” (War and Peace: Military and Society in the Early Modern Period), which includes the results of the founding conference of the Military and Society Working Group, a wide range of socially relevant military topics was covered.<sup>25</sup> The topics treated were military administration in the

23 Kroener, *Kriegswesen*: pp. 96-97.

24 Kroener, *Kriegswesen*: p. 96.

25 Bernhard R. Kroener, Ralf Pröve (ed.), *Krieg und Frieden: Militär und Gesellschaft in der Frühen Neuzeit*, Paderborn, München, Wien, Zürich: Ferdinand Schöningh, 1996.

17th and 18th centuries, the financing of armies and wars in the 16th and 17th centuries, the mental and spiritual horizons of mercenaries in the Thirty Years' War, the Prussian cantonment system, the recruitment system of the 18th century in its shaping and acceptance by the people, the quartering system and its socio-economic consequences, soldier families and illegitimate children in the 17th and 18th centuries, desertion in the 17th and 18th centuries, the military in the 19th century and also the military in the 18th century, desertion in the 18th century, the psychological crisis management at the time of the Thirty Years' War, the population as a factor and war participant in the Thirty Years' War, the life of citizens in a besieged city in the 18th century, and the occupation rule during the Seven Years' War.

However, only three contributions took up one aspect of the Military Revolution debate for their respective arguments. And it always was the same point of view: the increase in the number of troops in the 17th and 18th centuries. Whereby Kroener in his article did not really convincingly claim a reduction of armies or of the total number of soldiers available to a state respectively.<sup>26</sup> In the various articles beyond Kroeners text, however, the reflections and the research on the Military Revolution of the English-American historians as well as their findings did not play a role as a reference or even starting point for further considerations.

And this finding also applies to the research initiated and represented by the Military and Society Working Group from now on. This research is the authoritative starting and reference point in Germany for the early modern period. It considerably expanded, as can easily be seen, the knowledge of military society primarily in Central Europe, but above all in the Holy Roman Empire of the German Nation. In their post-doctoral theses, doctoral dissertations, master's and bachelor's theses, as well as articles and papers, the members of the *Arbeitskreis* and the historians working in its environment investigate broad, comprehensive subject areas, using a wide range of methods and theories.

One branch of research, for example, brought together military history and gender history, which had previously mostly been considered separately in Germany. The research was based on the assumption that war and the military contributed significantly to the construction and dissemination of male and female

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26 Bernhard R. Kroener, "Das Schwungrad an der Staatsmaschine?" *Die Bedeutung der bewaffneten Macht in der europäischen Geschichte der Frühen Neuzeit* in Kroener, *Pröve, Krieg und Frieden*, pp. 1-23, 7.

gender images.<sup>27</sup> The questions that arose were, for example, those about military constitution and gender order or warfare and gender order and about the consequences that resulted for gender relations in politics, society, economy, and culture. Of course, in this context, as in general, the issue was the relationship of the military and the military constitution to the exercise of rule.

Other topics that opened the view on the early modern military in the context of military and society were the recruitment and advertisement of lansquenets, mercenaries and soldiers as well as the experiences that peasants and soldiers and their respective families had with each other in the wars of the 16th century to the 18th century.<sup>28</sup> In addition, the military occupation of places and territories as well as the relationship between the military and religiosity were examined in more detail.<sup>29</sup> On the one hand, relations between military and civilian authorities during the phase immediately following a military seizure were studied, and on the other hand, the extent to which the military played a role in confessionalization in the estates of the Holy Roman Empire. Again, the question of early modern statehood was raised. In addition, however, the role of the clergy in the military was also examined.<sup>30</sup> Religious mentalities in the military were explored, as well as the significance of the religious, or better perhaps confessional, argument in the justification and propaganda of warlike conflicts.

All these topics have been raised in earlier times as side aspects of the "Old Military History," but they were never followed up, never examined more deeply, as it happened now by the "New Military History." This observation, however, did not apply to the interweavement between the military and war on the one hand and art, literature and music on the other.<sup>31</sup> Here the "New Military History" broke new ground. For although images appear often and widely in the works of Parker, Black, and other historians, these images are regularly seen and used almost exclusively as illustrations. As works of art that were created in a

27 Karen Hagemann, Ralf Pröve (eds.), *Landsknechte, Soldatenfrauen und Nationalkrieger: Militär, Krieg und Geschlecht im historischen Wandel*, Frankfurt am Main, Campus, 1998.

28 Stefan Kroll, Kersten Krüger (eds.), *Militär und ländliche Gesellschaft in der frühen Neuzeit*, Münster, LIT, 2000.

29 Markus Meumann, Jörg Rogge (eds.), *Die besetzte res publica: Zum Verhältnis von ziviler Obrigkeit und militärischer Herrschaft in besetzten Gebieten vom Spätmittelalter bis zum 18. Jahrhundert*, Münster, LIT, 2006.

30 Michael Kaiser, Stefan Kroll (eds.), *Militär und Religiosität in der Frühen Neuzeit*, Münster, LIT, 2004.

31 Matthias Rogg, Jutta Nowosadtko (eds.), *Mars und die Musen: Das Wechselspiel von Militär, Krieg und Kunst in der Frühen Neuzeit*, Münster, LIT, 2008.

wartime context and have meaning for that context, they are extremely rarely interpreted.

It turned out that war and art were not unsurmountable opposites. Already in the early modern period, art as a means of propaganda could influence the war, the will of the soldiers to fight and thus the battle itself, and it could as well affect the attitude of civilians to the war.<sup>32</sup> This was true to a great extent for the leaflets and pamphlets, for a special occasion produced etchings and copperplate engravings, for the copperplate series in which these were often compiled. And it was also true for the music, for the drumming that accompanied the marching of the troops, and for the music of the Ottoman janissaries that was supposed to incite to fight.

It is therefore not surprising that works in the history of communication on text and image propaganda, on words as they appeared in the aforementioned pamphlets and leaflets, also on images in general, on medals, coins, festive events, and even fireworks, which generally produced images and words, were put in relation to soldiering and the military. Since then, those works have formed an interesting and exciting branch of research in their own right.

In contrast, initial investigations into the living conditions of soldiers' wives who lived in eighteenth-century garrisons have not yet found a wide follow-up. The examples we yet have encountered originated from Brandenburg-Prussia.<sup>33</sup> Among other things, the status of the soldiers' wives as spouses or as mistresses and what this entailed in each case were examined. In addition, the focus was on the legitimate or illegitimate children of these women. The living conditions, especially the provisioning of this group, which also belonged to the military, were also always at issue. Comparative research from other German territories or, even better, from other European countries would be desirable.

What in recent times is increasingly proving to be a serious consequence of military conflicts was at all times the result of fighting and, if one looks closely, a problem that took on ever greater significance as a result of the Military Revolution: flight, expulsion, migration. The German "New Military History"

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32 Sebastian Küster, *Vier Monarchien – Vier Öffentlichkeiten: Kommunikation um die Schlacht bei Dettingen*, Münster, LIT, 2004; Thomas Weißbrich, *Höchstädt 1704: Eine Schlacht als Medienereignis. Kriegsberichterstattung und Gelegenheitsdichtung im Spanischen Erbfolgekrieg*, Paderborn, München, Wien, Zürich, Ferdinand Schöningh, 2015.

33 Beate Engelen, *Soldatenfrauen in Preußen: Eine Strukturanalyse der Garnisongesellschaft im späten 17. Und 18. Jahrhundert*, Münster, LIT, 2005.

for the early modern period also took up this topic a few years ago.<sup>34</sup> However, it did so entirely in the sense of social history, without specifically referring to the Military Revolution as a factor for promoting migration. So far, the difficult attempt has been made to typologize the elements of this field of research: flight, expulsion, evacuation, expulsion, deportation, resettlement – and to assign them to different affected groups. This is usually impossible to do unambiguously given the complex initial and mixed situation. Each situation differed in some way from the others. This was equally true of the consequences of these movements triggered by military action. But it became apparent that even in early modern Europe, wars and even minor military conflicts triggered major migratory movements and led to significant migration flows.

And with “military cultures of memory,” yet another field of research, which today is of almost depressing topicality, was opened up for the early modern period by the “New Military History.”<sup>35</sup> It turned out that the memory of wars had a very special and strong identity-forming effect, although the memories of the nobility differed from those of the bourgeoisie and all of them from those of the rural society as far as they could be recorded. This was the case because wars and military events played a prominent role in the historical constructions of countries and territories. (It is difficult to speak of nations in the early modern period.) Such “identity” was, and is today, invoked again and again in order to achieve the political goals of the rulers. Almost without exception, these attempts to create meaning were aimed at legitimizing claims for the future by interpreting the past, by giving meaning to past military events and their consequences. This broad field of research is a useful and valuable addition with regard to the Military Revolution, because in its own special way it takes a look at the cultural, mental, and propagandistic consequences of the Military Revolution in relation to the ideological formation of the state.

It will come as no surprise that in all the research initiated thanks to the “New Military History,” the changes and developments in naval warfare have completely fallen out of consideration. Germany had no naval tradition in the early modern period, apart from the merchant and trade alliance of the Hanseatic League in the period between about 1250 and 1670. Therefore, shipbuilding and

34 Matthias Asch, Michael Herrmann, Ulrike Ludwig, Anton Schindling (eds.), *Krieg, Militär und Migration in der Frühen Neuzeit*, Münster, LIT, 2008.

35 Horst Carl, Ute Planert (eds.), *Militärische Erinnerungskulturen vom 14. Bis zum 19. Jahrhundert: Träger, Medien, Deutungskonkurrenzen*, Göttingen, V&R Unipress, 2012; Frank Zielsdorf, *Militärische Erinnerungskulturen in Preußen im 18. Jahrhundert: Akteure, Medien, Dynamiken*, Göttingen: V&R Unipress, 2016.



ship management have hardly or not at all been included in the considerations of the “New Military History.” Maritime considerations have not yet established a separate or unifying field of research. The so-called “fleet” of Elector Frederick William of Brandenburg, referred to as Great Elector by the friends of Brandenburg-Prussia, has also not yet given rise to any new research – probably because the ships were largely of Dutch origin and almost all belonged to Dutchmen, not to the Elector.

The new research subjects of the “New Military History” are, as one can easily see, far removed from the concept of the Military Revolution as discussed and applied in its basic conception by Michael Roberts and the essential and important extensions of those basic assumptions by Geoffrey Parker and Jeremy Black in the English-speaking world. However, especially Geoffrey Parker’s book, because it was translated into German, has contributed a lot to the fact that German early modern research has turned again to military history to a larger extent and with great commitment, even if, with very few exceptions, extent and with great commitment, even if, with very few exceptions, the social issues of military history have now been, and regularly still are, the focus of interest.

Thus, in conclusion and in summary, the following picture emerges for Germany: The conception as well as the discussion of a Military Revolution, as it was conducted in the English-speaking world, has been received in German historiography only very late, after more than thirty years. This reception since 1986, actually only since 1988, however, has not led to any real discussion of the topic and the assumptions in Germany. The conception was hardly taken up and transferred to the German and Central and Eastern European conditions, which had previously been little or not at all considered. The only tardy discussion was primarily due to the Germans’ attitude toward war and the military. Germans were reluctant to confront the fact that military developments and innovations had contributed to technological progress and the rise of the West, and thus to the superiority of the West in the wider world that since the 16th century led to colonialism.

In order to be able to deal with the military, which has existed at all times and which played an important role in the history of the early modern period in every respect due to the extremely frequent, long-lasting wars, the social and cultural elements inherent in the military were therefore examined within the framework of a “New Military History.” This was and is done on a very broad basis. The investigations have indeed considerably expanded our knowledge of the connections between the military and civilian life, the military and the emerging modern society. However, the „New Military History“ has hardly contributed

anything to the military in times of war, or to strategic, tactical, and operational questions, questions which were fundamental for the Military Revolution. Studies on “Military Observation and Reporting around the Seven Years’ War,”<sup>36</sup> on “War and War Experience in the West of the Empire 1648-1714,”<sup>37</sup> on “The War Commissariat of the Bavarian League Army during the Thirty Years’ War”<sup>38</sup> and more recently on “The Military in the Early Modern World” have so far been exceptions.<sup>39</sup> They show, however, that some German historians are well aware of the importance of the concept of the military revolution and its impact.

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36 Ewa Anklam, *Wissen nach Augenmaß: Militärische Beobachtung und Berichterstattung im Siebenjährigen Krieg*, Münster, LIT, 2008.

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38 Keita Seito, *Das Kriegskommissariat der bayerisch-ligistischen Armee während des Dreißigjährigen Krieges*, Göttingen, V&R Unipress, 2020.

39 Markus Meumann, Andrea Pühringer (eds.), *The Military in the Early Modern World: A Comparative Approach*, Göttingen, V&R Unipress, 2020.

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Sebastian Munster (1489-1552), *Cosmografia*, 1544. Battle-Source: William Favorite, tablespace.





School of Michiel Jansz. van Mierevelt (1566-1641), Portrait (1607) of Maurice Prince d'Orange Nassau, Source: Wikimedia Commons.



## Exploring the Italian Military Paradox

By MARCO MOSTARDA and VIRGILIO ILARI \*

In 1503, in Barletta, thirteen Italian knights in the Spanish service challenged and defeated as many Frenchmen who had charged Italians with cowardice. A contemptuous oxymoron (*Italum bellacem*) coined by Erasmus in his *Adagia* (1508) caused harsh reactions from Italian literates, and again in 1637 the military virtue of the Italians was defended by Gabriel Naudé in the *Syntagma de studio militari*<sup>1</sup>. But the stereotype of ‘unwarlike Italians’ still persists despite occasional protests and contrary examples<sup>2</sup>.

Yet the Latin/Italian imprint on the European military lexicon<sup>3</sup> also reflects the Italian primacy in military literature<sup>4</sup> and printing<sup>5</sup> during the modern age, to which we owe the *restitutio* and *imitatio* of the Greek and Roman military model<sup>6</sup>, Machiavelli’s *Art of War* (1521), Botero’s *Ragion di stato* (1589) and Gentili’s *De Armis Romanis* (1599)<sup>7</sup>, as well as “*trace italienne*”, light cavalry and

\* Sections I-IV are by M. Mostarda, Section V by V. Ilari.

- 1 Virgilio Ilari, «L’ossimoro di Erasmo», in Id., *Clausewitz in Italia e altri scritti di storia militare*, Roma, Aracne, 2019, pp. 227-239.
- 2 «Hilarity erupts - “Short book!” - whenever I reveal that the subject of this book is Italian war heroes: an oxymoron, I am assured, by Italians or foreigners, in Italy and *outside*, since “Italians are anything but”» (Gregory Hanlon, *The Twilight of a military tradition. Aristocrats and European conflicts, 1560-1800*, London: UCL, 1998; Routledge: 2014, p. 1).
- 3 Piero Del Negro, «Una lingua per la guerra: il Rinascimento militare italiano», in Walter Barberis (Ed.), *Guerra e pace*, vol. xviii di *Storia d’Italia. Annali*, Torino: Einaudi, 2002, pp. 299-336. Id., «Le lingue del ‘militare’», in Paola Bianchi, Piero Del Negro (Eds.), *Guerre ed eserciti nell’età moderna*, Bologna: Il Mulino, 2018.
- 4 Virgilio Ilari, *Scrittori militari italiani dell’età moderna. Dizionario bio-bibliografico 1410-1799*, 2a ed., Roma: Nadir Media, 2021.
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- 6 Virgilio Ilari, «*Imitatio, restitutio, utopia*: la storia militare antica nel pensiero strategico moderno», in Marta Sordi (Ed.), *Guerra e diritto nel mondo greco e romano*, Milano: Vita e Pensiero, 2002, pp. 269-381.
- 7 *The Wars of the Romans: A Critical Edition and Translation of De Armis Romanis*, Benedict Kingsbury & Benjamin Straumann (Eds.) and David Lupton (Transl.), Oxford: Oxford U. P.,

long-range raids, permanent military structures and peasant militias<sup>8</sup>, mountain warfare, galleys and riverine warfare<sup>9</sup>, territorial defense systems<sup>10</sup>, *cunctatio*, cartography, war reporting, diplomacy, intelligence, cryptography, covert operations and the military applications of mathematics, engineering and natural sciences, from Leonardo to Galileo.

The accurate military bibliography drawn up in 1900 by Maurice James Draffen Cockle about books printed until 1642, lists 245 books by Italian authors out of a total of 626 (39 per cent): the books in English are just 166, and of these 12 are translations of Italian texts. The Italian prevalence is the highest in military architecture (50:71), absolute in military art (91:157), artillery (23: 43) and fencing (12:21) and relative in cavalry and farriery (16 out of 36; however, 4 of the 5 treaties on the tactical use of cavalry are Italian)<sup>11</sup>.

In 1921 Frederick Lewis Taylor explained this “rapid progress, amounting almost to revolution, in the use of arms” as an intellectual fallout of the Italian Renaissance<sup>12</sup>. In 1934, however, Piero Pieri investigated the “contradiction” between *Rinascimento* and the “end of Italian independence”, determined by the lack of political unity rather than of warlikeness<sup>13</sup>. Although the figure of Giovanni de’ Medici as a “precursor” of the *Risorgimento* was a nineteenth-century invention<sup>14</sup>, his death (1526) was also effectively perceived by his contemporaries as a turning point towards “a great long-lasting catastrophe”<sup>15</sup>.

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2011.

8 Virgilio Ilari, *Storia del servizio militare in Italia, I (1506-1870)*, Rome: CeMiSS, Rivista Militare, 1989, pp. 23-94.

9 Federico Moro, «Venetia rules the Rivers. La geo-strategia fluviale veneziana (1431-1509)», *Nuova Antologia Militare*, No. 7, June 2021, pp. 7-68.

10 Ennio Concina, *La macchina territoriale. La progettazione della difesa nel Cinquecento veneto*, Bari: Laterza, 1983.

11 Maurice J. D. Cockle, *A Bibliography of English Military Books up to 1642 and of Contemporary Foreign Works*, with an Introductory Note by Charles Oman, Ed. by H. D. Cockle, London, Simpkin, Marshall, Hamilton, Kent & Co. Ltd., 1900 (reprint Holland Press 1957, 1978).

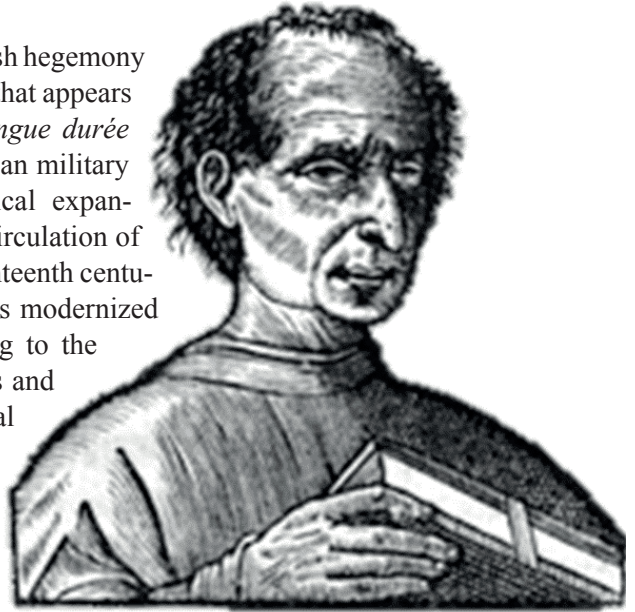
12 Frederick L. Taylor, *The Art of War in Italy, 1494-1529*, Cambridge: Cambridge U. P., 1921, pp. 1-2.

13 Piero Pieri, *La crisi militare italiana nel Rinascimento nei suoi rapporti colla crisi politica ed economica*, Firenze: Ricciardi, 1934; Id., *Il Rinascimento e la crisi militare italiana*, Torino: Einaudi, 1952<sup>2</sup>, pp. 13-14. On the history of this important book, see Fabio De Ninno, *Piero Pieri. Il pensiero e lo storico militare*, Firenze: Le Monnier, 2019, pp. 92-111.

14 Maurizio Arfaioi, «Medici, Giovanni de’», *Dizionario Biografico degli Italiani* (henceforth *DBI*), 73, 2009.

15 Alberto Asor Rosa, *Machiavelli e l’Italia. Resoconto di una disfatta*, Torino: Einaudi, 2019.

The century and a half of Spanish hegemony (1558-1699) and the “continuity” that appears from a bird’s eye view and a *longue durée* perspective<sup>16</sup> do not imply an Italian military “decadence”, rather a geographical expansion of experience and a greater circulation of knowledge<sup>17</sup>. During the long Eighteenth century (1688-1792) small Italian states modernized their armies and navies according to the contemporary European standards and within the limits of their financial and social constraints. They also performed on the battlefield according to their particular interests and foreign constraints.



Machiavelli’s Portrait, from the title page of the 6th ed. of the *Art of War* (1550)

The Italian military professionals in the service of the House of Austria were truly “agents of empire”<sup>18</sup> on an international scale: people whose service was valuable not just because of their military expertise, as rather because they combined their talent on the battlefield with an overall political reliability. As already noted by Gregory Hanlon, the Italians shared the Habsburg confessional absolutism because of cultural affinities, being eager to further the imperial cause by enforcing policies aimed at fully restoring its authority while ruthlessly uprooting the Protestant “heresy”.<sup>19</sup> The Peace of Westphalia made them obsolete: in a new system of sovereign states in which each state was unwilling to impinge on the domestic jurisdiction of the others,

16 Davide Maffi, «L’Italia militare dalla metà del XVI secolo alla metà del XVIII: crisi o continuità? Un tentativo di approccio», in Paola Bianchi e Nicola Labanca (Eds.), *L’Italia e il militare: guerre, nazione, rappresentazioni dal Rinascimento alla Repubblica*, Roma: Edizioni Storia e Letteratura, 2014, pp. 31-55.

17 Therese Schwager, *Militärtheorie im Späthumanismus. Kulturtransfer taktischer und strategischer Theorien in den Niederlanden und Frankreich (1590-1660)*, Berlin/Boston: De Gruyter, 2012.

18 The term is borrowed from Noel Malcolm, *Agents of Empire: Knights, Corsairs, Jesuits and Spies in the Sixteenth-Century Mediterranean World*, London: Penguin, 2015 (Milan: Hoepli, 2016). See also: Michael J. Levin, *Agents of Empire: Spanish Ambassadors in Sixteenth-Century Italy*, Ithaca and London: Cornell U. P., 2018.

19 Hanlon, *The Twilight*, pp. 93, 98, 211.

where confessionalism was tacitly shelved, there was no room for the old concept of a supranational imperial authority based on medieval political categories. The vision of a religiously militant, universal monarchy reinvigorated by Charles V and backed by Ferdinand II came to an end, and the agents of empire declined accordingly. The Italian military aristocracies survived in the form of local elites within the boundaries of the old states, while retreating from the international stage: hence the perception of their relative decline. It is obvious, then, that the (relative) demilitarization of aristocracies was more accentuated in small states, such as the Italian ones, than in the great powers, due to the greater offer of military opportunities provided by the latter.

#### I. THE MILITARY LEGACY OF THE XV CENTURY

After a century of fierce competition and growing military expenditures the Treaty of Lodi of 1454 broadly settled the relationships between the Italian states for the next forty years: it was an uneasy peace travailed by brief disturbances, like the crisis brought about by the Pazzi conspiracy in 1478 or the War of Ferrara in 1482-84, but one inspired by the overarching principle of an existing balance of power between the major Italian states. In the first place such a settlement – enshrined in the foundation of the Italic League four months after the peace treaty – put an end to thirty years (1423-1454) of clashes between the Duchy of Milan and the Republic of Venice, the two paramount military powers in the peninsula. The latter, more than being torn between two incompatible goals, namely expanding her possessions on mainland Italy while preserving her colonial empire in eastern Mediterranean on the backdrop of an increasing Ottoman encroachment, always pursued a strategy whose pragmatic opportunism was stressed by Piero Pieri:<sup>20</sup> one that led the Venetian government to invest money and amass resources and manpower depending on which of the two theatres of war appeared the most promising one from time to time. Looking at the interplay of political ambitions and strategic calculations dictating the long war of attrition between the two states in Northern Italy, it is also safe to assume that the rationale of the Venetian expansion was more conservative: one essentially aimed at shielding the Venetian lagoon from Milanese ambitions, while keeping control of the vital trade routes to Germany that stretched north, via the Bishopric of Trent, from the pivotal position of Arco then in Venetian hands. Thus, the *Dominio di Terraferma* would appear as an integral part of the Venetian empire, governed by the same logic of keeping the lines of communications open and

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20 Pieri, *Il Rinascimento* (1952), pp. 181-188.

ensuring the steady flow of trading goods. At the same time the territory of the Republic stretched south, contending with the Duchy of Ferrara and the Papal States for the control of Romagna, a region whose plains represent the real gateway to the Italian peninsula east of the Northern Apennines. Even though, by analysing the rough Italian orography from a geostrategic standpoint, the attention is all too often caught by the impressive landscapes of the Alpine arc, from Hannibal to Napoleon this has always proved to be a porous barrier: the Apennine Mountains, composed by three roughly parallel mountain chains extending for about 1.200 km, represent instead the real watershed, cutting longitudinally the peninsula in an eastern and a western half marred by difficult connections. Geography dictates strategy and it is not by coincidence that in August 1494 the Papal and Aragonese forces started to concentrate in Romagna, though still unsure about the best course of action between waiting for the French invasion along its most predictable route, or seizing the initiative by invading the Duchy of Milan; nor is a coincidence that one of the most climatic battles of the Italian Wars was fought near Ravenna in 1512, when the French army led by Gaston de Foix stemmed the sluggish<sup>21</sup> southern pincer of the Holy League forces aimed at menacing the French positions in the Duchy of Milan.

The western access to the Italian peninsula was, by comparison, much more difficult, with the hypothetical invader compelled to climb over the Cisa Pass and follow down the course of the Magra river only to stumble upon the Florentine fortifications blocking the southern mouth of the valley: in 1494 just an extraordinary set of circumstances – i.e., the French control of Genoa and the willingness by Piero de' Medici to relinquish the strategic chokepoint represented by the heavily fortified town of Sarzana with the fortress of Sarzanello without putting up resistance<sup>22</sup> – ensured the success of the march of Charles VIII toward the Kingdom of Naples. Such an abject surrender spelled in turn the outflanking of the Italian army then encamped in Romagna and, what is more, the collapse of the Medici regime in Florence, even though the Florentine military weakness was anything but unexpected. The State has always been characterised by a deeply rooted political tradition which held in suspicion the condottieri and their mercenary companies, and this at a time when the other Italian states were slowly moving toward the creation of standing armies by means of permanent *condotte* (i.e., the contracts through which the condottieri

21 Michael Mallett, Christine Shaw, *The Italian Wars, 1494-1559. War, State and Society in the Early Modern Europe*, New York: Routledge, 2014, pp. 117-118.

22 Francesco Guicciardini, *Storia d'Italia*, ed. by Silvana Seidel Menchi, Torino: Einaudi, 1971, I, XIV, pp. 90-93.



were usually engaged). Thus, Florence lagged far behind Milan and Venice in such a process<sup>23</sup> and kept relying on the *ad hoc* hiring of foreign condottieri – mostly the turbulent barons of the neighbouring Papal States – when pressed by military exigencies.<sup>24</sup> No wonder that such a system made the Florentine mobilisation untimely and chaotic, not up to the task of dealing with sudden crises like the one brought about by the descent of the French king. The broad picture of the major peninsular states is completed by the Papal States and the Kingdom of Naples, two markedly different political entities united by a shared element: an unruly and disloyal aristocracy which sapped the military strength and undermined the institutional resilience of both these states. A remark especially true in the case of the southern kingdom, stricken by the second Conspiracy of the Barons against king Ferdinand which had been finally repressed as recently as in 1487.

The system of “checks and balances” holding these states together in a condition of relative peace – and famously evoked with a hint of nostalgia<sup>25</sup> by Francesco Guicciardini at the onset of his history of the Italian Wars<sup>26</sup> – was generally considered to be the brainchild of Lorenzo de’ Medici: one made possible by the good understanding attained by the ruler of Florence with another prudent and pragmatic politician like the king of Naples. Such an idealization of the farsightedness and political genius displayed by Lorenzo was enthusiastically shared by Niccolò Machiavelli, as apparent by the close of his *Florentine Histories*.<sup>27</sup> Given the swift collapse of such a system after the demise of its mastermind, though, denouncing in the process its inherently frail foundations, the words of the two influential humanists should be read more as a mythization of the near past, aimed at stressing the tragic conditions occasioned by the Italian Wars,<sup>28</sup> than as a cogent assessment of the Medici’s policy and its long term effectiveness. The causes behind the sudden downfall of the Italian states after 1494 have been fiercely debated since then: Machiavelli and Guicciardini

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23 Michael Mallett, *Mercenaries and their Masters. Warfare in Renaissance Italy*, Barnsley: Pen and Sword Books, 2019, pp. 62, 105-106.

24 Pieri, *Il Rinascimento* (1952), pp. 168-169.

25 Felix Gilbert, *Machiavelli e Guicciardini. Pensiero politico e storiografia a Firenze nel Cinquecento*, Einaudi: Torino, 2012, p. 83.

26 Guicciardini, *Storia d’Italia*, I, II, p. 5: “Tali erano i fondamenti della tranquillità d’Italia, disposti e contrapesati”.

27 Niccolò Machiavelli, “Historie Fiorentine”, in Id., *Tutte le opere. Secondo l’edizione di Mario Martelli* (1971), Milano: Bompiani, 2018, VIII, 36, pp. 2141-2144.

28 Alberto Asor Rosa, *Machiavelli*, p. 39.



Rupert Heller, *The Battle of Pavia*, Nationalmuseum, Stockholm  
(Source: Wikimedia Sverige)

were unanimous in putting the blame on the shortcomings of a military system reliant on the condottieri and their mercenaries.<sup>29</sup> The former was especially scathing about the alleged «uselessness of mercenary troops, who have nothing to make them fight but the small stipend they receive, which is not and cannot

<sup>29</sup> Mallett, *Mercenaries*, p. 3.

be sufficient to make them loyal, or so devoted as to be willing to die for you».<sup>30</sup> The alleged political unreliability of the condottieri and their unwillingness to stand for a cause whatsoever made them unfit for serving republics and princes alike (the same condemnation is conjured up in *The Prince*)<sup>31</sup> and such a critique became in turn common wisdom in explaining the military catastrophe befalling the Italian states. Machiavelli's thought, however, is also a flawed one; his deprecation of the military professionalism combined literary clichés stemming from the disparaging opinion on mercenary troops typical of the humanists<sup>32</sup> with the peculiar Florentine political tradition: one in which, as already stressed, the condottieri were held by civil authorities even more on suspicion than elsewhere in Italy. As known, Machiavelli's headlong attack against them did not even balk at the opportunity of penning ideologically driven rewritings of the recent past, aimed at proving that the art of war practiced by the condottieri had always been ineffective and desultory. Within this ideological frame should be interpreted the famous yet false claim laid by the Florentine Secretary about the battle of Anghiari: a clash in which, according to him, the only casualty in an entire day of fight was a knight trampled to death by a horse.<sup>33</sup> In a Western Europe uniformly dominated by military professionalism, one in which Machiavelli's abhorrence of "mercenaries" was out of touch with the realities of his age, the causes of the Italian military crisis must be looked for elsewhere.

## II. THE "HORRENDE GUERRE D'ITALIA"

Guicciardini claimed that prior to 1494 field battles were relatively bloodless and wars marked by drawn-out campaigns, because the methods devised for besieging strongholds were «long and difficult»; this happened before the French, due to the skilled handling of their modern artillery, brought to the war in Italy «tanta vivezza».<sup>34</sup> Such a remark seems to foreshadow the well-known instructions by Frederick the Great to his generals, according to which the war

30 Machiavelli, "Discourses on the First Ten Books of Titus Livius", in *The Historical, Political and Diplomatical Writings of Niccolò Machiavelli. Translated from the Italian by Christian E. Detmold*, Boston: James R. Osgood and Company, 1882, I, XLIII, p. 188.

31 Machiavelli, "Il Principe", in *Opere*, XII, pp. 847-848.

32 Mallett, *Mercenaries*, p. 208.

33 Machiavelli, "Historie Fiorentine", in *Opere*, V, XXXIII, p. 1966. Anghiari was a bloody battle, with about 900 casualties, see: Mallett, *Mercenaries*, p. 197.

34 Francesco Guicciardini, *Ricordi*, Milano: Garzanti, 1975, 64, p. 85.

should be «kurz und vives», that is to say short and lively.<sup>35</sup> We will come back to the second part of Guicciardini's maxim later on, when dealing with the effects of the *cunctatio* inspired by the Italian school in stemming the famous *furia francese*, thus setting the stage for long and costly campaigns of attrition. At the moment suffice to say that the first part can be profitably integrated by what the same author details about the French artillery in his *Storia d'Italia*: cast in bronze, the guns had a higher penetrating power due to the use of solid-iron shots instead of the stone balls usually thrown by the biggest Italian pieces; furthermore, being mounted on handy gun carriages drawn by horses instead of clumsy oxen, they also vaunted a significant margin of vantage in terms of mobility.<sup>36</sup> It is pretty apparent that, for Guicciardini, the French artillery was a real game changer: the possibility of reducing a fortress in a matter of days instead of months, speeding up the pace of the operations to the point of winning or losing an entire state after a single campaign,<sup>37</sup> allegedly made it the most significant and transformative innovation introduced in the peninsula by the army of Charles VIII. Just like in the aforementioned case of Machiavelli, an opinion coming from such an authoritative source was bound to be steadily embraced by generations of scholars, influencing all the subsequent interpretations: taking Guicciardini's thesis at face value, for example, Frederick Lewis Taylor concluded that «king Charles had shaken their faith in the protective properties of the masonry», revealing that «the Italians were behind the rest of the world in the arts of fortification and siegecraft».<sup>38</sup> Such a remark on the alleged backwardness of the Italian military architecture has been subject to a substantial revision in more recent times, by pointing out that the permanent fortifications erected between 1470 and 1480 already showed solutions which took into consideration the effect of the artillery fire.<sup>39</sup> In a sketch by Bastiano da Sangallo on a page of the *editio princeps* of Vitruvius' *De Architectura* we already look at an elevation view of a fortified system *alla moderna*, complete of the counterscarp,

35 Jay Luvaas (ed.), *Frederick the Great on the Art of War*, Cambridge: Da Capo Press, 1999, p. 141: «To all these maxims I would add further that our wars must be short and lively, since a prolonged is not in our interests».

36 Guicciardini, *Storia d'Italia*, I, XI, p. 92.

37 Guicciardini, *Ricordi*, p. 85: «di modo che insino al '21, perduta la campagna, era perduto lo stato».

38 Taylor, pp. 134, 129.

39 Elisabetta Molteni, «Le architetture militari», p. 175, in Paola Bianchi, Piero Del Negro (eds.), *Guerre ed eserciti nell'età moderna*, Bologna: Il Mulino, 2018.



the ditch and the scarped wall.<sup>40</sup> As Amelio Fara managed to stress, the history of military architecture was dominated for a long time by the wrong assumption that the polygonal (and, specifically, the pentagonal) bastion was some kind of an end point in a linear evolution, which relegated as obsolete other solutions like the round bastion.<sup>41</sup> before 1494, instead, the plans devised by Francesco di Giorgio Martini and Giuliano da Sangallo show a mix of different elements.<sup>42</sup> We can only assume that most of these projects remained on paper because of the relative period of peace enjoyed by the Italian peninsula between the Peace of Lodi and the first French invasion: but it is quite apparent that after 1494 the Italian states were swift in adapting their fortifications to the new military conditions brought about by the French. This was made possible by the fact that they already possessed the required theoretical bases, ready to be translated into practice. Thus, in 1503 Pisa was able to repel a French assault thanks to a ditch and a rampart erected by the defenders behind the original walls: the «double Pisan rampart», as baptised by Christopher Duffy, paved the way for the developments of the rest of the XVI century, being replicated in more refined forms at Padua in 1509, Brescia in 1515, Parma in 1521 and Siena in 1552-3.<sup>43</sup> The statement made by Guicciardini is therefore questionable; it is still so if we ignore developments after 1500, limiting its validity to the descent of Charles VIII in 1494-95. In this case, as a matter of fact, it entirely misses the point: although the technical superiority of the French artillery remains unquestioned, the surrender of Florence and the swift military collapse of the Papal States and the Kingdom of Naples were brought about before the guns could be involved in any significant military action.

Piero Pieri was the first historian to note that during the 1494-95 campaign the main features of the traditional *furia francese*, that is to say the reliance on swift movements and shock tactics, are barely noticeable.<sup>44</sup> While the speed of the advance was apparent and so the resoluteness of Charles VIII in achieving his political aims, the French did not break through the enemy positions by assaulting them: the Papal-Aragonese defence lines were repeatedly forced

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40 Amelio Fara, *Il sistema e la città. Architettura fortificata dell'Europa moderna dai trattati alle realizzazioni, 1464-1794*, Genova: Sagep Editrice, 1989, pp. 81-82. Vitruvius was edited by Giovanni Sulpicio da Veroli and published in Rome in 1486.

41 Amelio Fara, *La città da guerra*, Torino: Einaudi, 1993, p. 15.

42 Fara, *Il sistema e la città*, p. 84.

43 Christopher Duffy, *Siege Warfare. The Fortress in the Early Modern World, 1494-1660*, London and New York: Routledge, 1996, p. 15.

44 Pieri, *Il Rinascimento*, pp. 339-340.



through a combination of broad strategic manoeuvres and political intrigues deftly exploiting the treachery of the local elites, thus echoing the peculiar and much maligned way of war usually practised by the Italian condottieri in the XV century. The positions held by the left wing of the Italian army along the upper course of the Tiber River were made untenable by the defection of the Colonnese to the French. Ostia had already been occupied by their partisans, and after accomplishing the linking-up with the French reinforcements landed at Nettuno the concentration of 8.000 Franco-Colonnese soldiers proved sufficient to force the enemy in abandoning the line along the Tiber, thus opening the road to Rome. The successful flanking movement against the left wing of the Papal-Aragonese forces represents a relevant example beyond its immediate historical scope: it shows the paramount importance of the command of the sea then enjoyed by the French and the related vulnerability of the Italian peninsula to an effective exercise of sea power. The control of Genoa and the early defeats of the Aragonese fleet at Portovenere and Rapallo<sup>45</sup> let the French fleet wrest control of the Tyrrhenian Sea. The benefits were manifold: the cumbersome French guns – around 40 heavy pieces<sup>46</sup> – could be shipped to Genoa and from thence to Spezia without encumbering the French army during the perilous crossing of the Cisa Pass, thus speeding-up the pace of the French descent before meeting the enemy. Further on, the freedom of movement guaranteed by the command of the sea made it possible for the French to outflank the Papal positions north to Rome. Finally, the Aragonese forces tried to make one last stand along the line marked by the Liri and Volturno rivers: but once again the outflanking of the Italian positions was made possible by the general insurrection of the Abruzzi, bringing about the surrender of Capua and thus opening the road for Naples. The French campaign had lasted just six months without any significant set-piece battle or decisive siege, justifying the quip attributed to Pope Alexander VI – and quoted by Machiavelli – that the king of France had seized Italy just with the chalk used by his quartermasters to outline the billets for the troops.<sup>47</sup>

With the two major military powers of the peninsula out of the picture (with Milan allied to the French and Venice still neutral), such an outcome is hardly surprising. The best army of Europe – comprising 10.000 heavy cavalry, most-

45 Camillo Manfroni, *Storia della marina italiana. Dalla caduta di Costantinopoli alla battaglia di Lepanto*, Roma: Forzani e C. Tipografi del Senato, 1897, vol. III, p. 203.

46 Pieri, *Il Rinascimento*, p. 332, n. 1.

47 Machiavelli, "Il Principe", XII, in *Opere*, p. 848: «onde che a Carlo re di Francia fu licito pigliare la Italia col gesso».

ly made up of the vaunted *Compagnies d'ordonnance* – was confronted by a weak military power like Florence and by two states whose significant military resources were fatally undermined by internal strife, the disloyalty of their barons and an irresolute conduct of the operations. With the French success built on such peculiar basis, this was undone by a sudden change of the diplomatic frame, with the Duchy of Milan turning against its former ally and Venice joining it in the fray once they realised the inherent dangers of tolerating a strong French presence in southern Italy. At that point, with Charles VIII obliged to hurriedly abandon the peninsula, a strong army mainly fielded by Venice set about to cut off its retreat, thus bringing about the first set-piece battle of the Italian wars. Aside from its indecisive and disappointing result, Michael Mallett was the first one to point out that the battle fought near Fornovo in 1495 is one of the only two major engagements of the period (the other being the battle of Agnadello in 1509) opposing a foreign army to an almost entirely Italian one, letting us evaluate the strengths and shortcomings of the opposing military systems.<sup>48</sup> If on a strategic level the preferences of the Italian condottieri were for a war of attrition aimed at avoiding direct engagements, while trying to wear down the (usually limited) resources of the enemy by besieging his strongpoints and resorting to a systematic depredation of his territories, once a fully-fledged engagement was made unavoidable – or desirable according to the circumstances – on a tactical level there had always been a marked reliance on methodical, drawn-out battles.<sup>49</sup> The Renaissance armies were usually subdivided into many small units ordered to attack in succession, with few of them making up the front line and actually engaging the enemy: the bulk of the troops was usually held in reserve, ready to replace the already worn-out units and renew the action or strike the decisive blow at the right time and place. While it was in the best interest of the defender to compel the enemy to resort to frontal assaults by skilfully using the advantages of the terrain or by making recourse to field fortifications, the attacker mostly aimed at using his reserves in order to try to

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48 Mallett, *Mercenaries*, pp. 247-248.

49 Pieri, *Il Rinascimento*, pp. 282-283. The author denies that those of the Renaissance armies can be properly considered as reserves, opting instead for the term reinforcements. This because they do not fully satisfy the modern concept of a reserve as a body meant for operating around the flanks or at the rear of the enemy in an autonomous way. In my opinion, however, Pieri's concept is too narrowly Clausewitzian in its formulation. Even if most of the troops held back from the *mêlée* were used piecemeal in replacing worn down units and not as a single *masse de decision*, still the condottieri often employed them attempting to outflank and encircle the enemy if a promising chance arose. See also the description of the battle of Aquila in: Mallett, *Mercenaries*, p. 73.

outflank and envelop the enemy positions. In any case it was considered most desirable to exercise a tight control on the tactical manoeuvre, letting it to carefully develop by stages. Of course, there always was the risk that shortcomings in terms of cooperation between different units, a breakdown in the chain of command or a sudden and aggressive initiative by the enemy might surprise and cut off single units from the main body of the army, exposing them to the risk of being defeated *en detail*. Roughly speaking, this is what happened both at Fornovo and Agnadello: in the first case the main body of the Italian army was held back and supposed to reinforce the too complex three-pronged attack devised by the commander in chief only by an explicit order coming from Rinaldo Gonzaga. When the latter was mortally wounded in the thick of battle, the reserves remained idle on the other bank of the Taro River, thus allowing the French to withstand the first Italian onslaught and successfully counterattack it. At Agnadello the Venetian army was caught by surprise in a strung-out disposition while moving from a strong fortified position to the next chosen one. The Venetian rear-guard, under the command of Bartolomeo d'Alviano, was isolated in the process and utterly crushed by the French despite a desperate resistance, without the main body of the army led by the torpid Count of Pitigliano being able or willing to come to his aid.<sup>50</sup>

If stripped of their more theoretical and overcautious proclivities, though, the main tenets of the Italian school were quite sound and the *cunctatio* – i.e., the war of attrition – laid the foundations of the way in which the military campaigns of the Italian Wars were fought and won after the opening French exploits. The same support expressed by Machiavelli for the “short and sharp”<sup>51</sup> kind of war waged by the French was somewhat contradictory,<sup>52</sup> because elsewhere the same author clearly recognized that fending off their first assault and compelling them to bear the brunt of a protracted campaign was a sure way for throwing them into disarray and beating them.<sup>53</sup> By briefly summarising the

50 Pieri, *Il Rinascimento*, pp. 458-463; Mallett, *Mercenaries*, pp. 252-254.

51 «Chi vuole fare tutte queste cose, conviene che tenga lo stile romano: il quale fu in prima di fare le guerre, come dicano i Franciosi, corte e grosse», in Machiavelli, “Discorsi sopra la prima Deca di Tito Livio”, in *Opere*, II, VI, p. 481. On this specific point see Felix Gilbert, “Machiavelli: The Renaissance Art of War”, in Peter Paret (ed.), *Makers of Modern Strategy. From Machiavelli to the Nuclear Age*, Princeton: Princeton U. P., 1986, pp. 24-25.

52 On the contradictory nature of Machiavelli's praise for the short and sharp war, see: Ilari, *Imitatio*, pp. 31-32.

53 «E Franzesi per natura sono più fieri che gagliardi o destri; e in uno primo impeto chi può resistere alla ferocità loro, diventano tanto umili e perdono in modo l'animo che diventano vili come femmine. E anche sono insopportabili di disagi e incomodi loro, e col tempo straccu-

matter we can conclude that blunting a French offensive was mostly a matter of straining the flimsy and haphazard logistics of an aggressive, dynamic yet disorganised force: something similar would have happened a century later in dealing with the Swedish army of Gustavus Adolphus during the Thirty Years War. On the strategic level the principles of attrition were already clear due to the experience of the XV century condottieri: namely, refusing the pitched battle, harassing the enemy troops with skirmishers, denying them the supplies by recurring to a scorched earth policy, attacking their outposts and isolated strongpoints, cutting their lines of communication. In the aftermath of Agnadello, for example, the Venetian army could make up for the defeat by hampering the movements of the French army with a skilful handling of its light cavalry.<sup>54</sup> The pure defensive represented by the war of attrition, though, was in itself incapable of bearing decisive results unless the *cunctatio* was followed by a resolute counteroffensive aimed at taking advantage of an overstretched and worn down enemy: in other terms, as Clausewitz would have expressed the concept three centuries later, it was a matter of identifying the *Kulminationspunkt*<sup>55</sup> of the enemy operations and act accordingly. In this respect, however, the Italian school was deemed wanting: if the attrition warfare, as deftly noted by Pieri, had been improved until perfection,<sup>56</sup> the idea of a counteroffensive by military means was still unrefined. There was still the tendency of capitalising on the enemy's exhaustion through under-the-table diplomacy or outright political intrigues aimed at getting rid of it without being compelled to face its troops on the battlefield: hence the indecisive and desultory nature of the Renaissance Italian strategy. A real defensive-counteroffensive concept could have been born only by combining the Italian lesson with the aggressiveness of commanders like Gonzalo de Cordoba and the Marquess of Pescara, leading "new model armies" whose strength resided in their flexibility.

On the tactical level, though, there was still the issue of how to deal in the open field with the irresistible striking power of the *Compagnies d'ordonnance* combined with the heavy infantry made up of the Swiss mercenary pikemen. Part of the solution to such a quandary was provided by the condottieri, namely

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rono le cose in modo che è facile, col trovargli in disordine, superargli», in Machiavelli, "Ritratto di cose di Francia", in *Opere*, p. 234.

54 Taylor, p. 74.

55 Clausewitz, *On War*. Edited and translated by Michael Howard and Peter Paret, Princeton: Princeton U. P., 1989, VI, 5, p. 528: «beyond that point the scale turns and the reaction follows with a force that is usually much stronger than that of the original attack».

56 Pieri, *Il Rinascimento*, pp. 290-291.





Ignazio Danti, *The Battle of Lepanto*, fresco in the Hall of Maps, in the Vatican Museums, Rome (Source: Wikimedia commons).

due to their refined use of the reserves and their unparalleled experience in field fortifications acquired all along the XV century.<sup>57</sup> But trenches, earthworks and palisades could evolve into a coherent and successful tactical system only once combined with an infantry force like the Spanish one: something which was slowly and laboriously accomplished during the campaigns in southern Italy

<sup>57</sup> Mallett, *Mercenaries*, pp. 168-172.



between 1495 and 1503. Compelled to confront with a mobile and elusive enemy on a broken terrain in the closing stages of the conquest of Granada, the Spaniards had already developed a tradition of light, missile infantry composed of archers and handgunners<sup>58</sup> (the equivalent of coeval Italian *schioppettieri*); in my opinion such a tradition could also account for their enthusiasm in adopting the arquebus at a time in which it was still a crude and relatively unwieldy weapon. Otherwise the sudden growth of arquebusiers in the ranks of the Spanish army operating in southern Italy, when Gonzalo de Cordoba started to rebuild and renew it after his first defeats, is bound to remain a process without a plausible explanation.<sup>59</sup> Understandably the missile infantry alone, even if backed by an efficient light cavalry (the *jinetes*), could not stand against the shock tactics of the French heavy cavalry and the Swiss pikemen: the only solution could come from combining different weapon systems with different strengths, weaknesses and ways for proficiently using them on the battlefield. Therefore, the evolution of a combined arms warfare from mistakes and gradual adaptations was the key for overcoming the challenges posed by the Italian Wars:<sup>60</sup> one-sided tactical performances, like the perduring reliance by the French on the cold steel of their *gendarmes*, or the conservative approach typical of the Swiss infantry bound to shock tactics by the unwillingness to integrate a significant amount of crossbowmen and arquebusiers to the main body of pikemen, were slowly but unavoidably bound to fail.

In this respect, it is difficult to underplay the seminal importance of the battle of Cerignola in 1503 because on that battlefield the combined arms system – the pike and shot tactics destined to rule the European battlefields up until the end of the XVII century – came of age for the first time. The Spanish arquebusiers were then combined with the *Landsknecht* pikemen provided by emperor Maximilian and, more importantly, these troops were deployed for the first time behind a ditch and a rampart devised by the skilled Italian condottieri Prospero and Fabrizio Colonna: both the wings were covered by bodies of mounted troops, but most of the cavalry was held in reserve – another significant detail – behind the pikemen and under the joint command of the said Prospero and Gonzalo de Cordoba. The French cavalry stumbled upon the ditch while being hit by the fire of the arquebusiers, which killed the commander Duke of Nemours just

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58 Pieri, *Consalvo di Cordova e la nascita del moderno esercito spagnolo*, Zaragoza: Institución «Fernando el Católico», 1954, p. 211.

59 Bert S. Hall, *Weapons and Warfare in Renaissance Europe*, Baltimore & London: The Johns Hopkins U. P., 1997, pp. 166-167.

60 Taylor, pp. 125-128.

in the opening stage of the engagement; the same fate was met by the Swiss pikemen, whose assault was halted by the field fortifications, the pikes of the Landsknecht and the crossfire of the arquebusiers which started to hit the exposed sides of the infantry square. When the French army began to waver, the Spanish reserves went into action, enveloping the Swiss and utterly annihilating them.<sup>61</sup> En passant it is worth mentioning that such are the reasons why the issues *The Art of War* by Machiavelli aimed at dealing with were markedly anachronistic by 1516, when the author set about to write his treatise: Machiavelli used the Swiss infantry, accustomed to fight in a formation resembling that one of the Hellenistic phalanx and thus «retaining like a shadow of that ancient militia»,<sup>62</sup> as an example of the possibility to successfully recover the «ancient orders» of the classical armies; on the same basis, then, he supported the idea of forming a heavy infantry of new type by means of resuscitating the peculiar institutions of the Roman Army (the only which proved able to vanquish the phalanx), because «what the Romans did and the Germans do nowadays, we can do as well».<sup>63</sup> Machiavelli conveniently pretended to forget that by that time the Swiss pikemen were anything but undefeated, thus significantly diminishing the reasons given for the urgency of such a reform. What is more, Machiavelli failed to mention that in the preceding twenty years the Italians had proved more than able to organise units of heavy infantry capable to withstand the fearsome Swiss and the German Landsknecht and even beat them; as early as in 1497, for example, Paolo Giovio (an author always particularly well-informed when it came to military developments) wrote in his *Histories* that the famed condottiere Vitellozzo Vitelli had organized a corps of 1.000 pikemen – the so-called *vitelleschi* – which had proved able to utterly vanquish 800 Landsknecht hired by pope Alexander VI during a battle near Soriano nel Cimino.<sup>64</sup> The *vitelleschi* were not an isolated case, being the prowess of the pikemen hired in Romagna and bolstering both the troops of Cesare Borgia and the armies of Venice widely renowned: in this respect exemplary is the case of Dionigi di Naldo, the founder

61 Paolo Giovio, *La vita del Gran Capitano e del Marchese di Pescara. Volgarizzate da Ludovico Domenichi. A cura di Costantino Panigada*, Bari: Laterza, 1931, II, III, pp. 112-115; Mallett, *Mercenaries*, pp. 250-251; Pieri, *Il Rinascimento*, pp. 408-412.

62 Machiavelli, *Opere*, II, 144, p. 975.

63 Machiavelli, *Opere*, II, 327, p. 996.

64 Paolo Giovio, *La prima parte dell'Istorie del suo tempo di Mons. Paolo Giovio da Como*, Venetia: Appresso Giovan Maria Bonelli, MDLX, IV, p. 195: «huomini [...] in abito contadinesco, e nell'aspetto quasi da che farsene beffe; ma con certa ostinatione d'animo, e durezza di corpo, e fede molto costante».

of the fearsome company of the *brisighelli*, so called because it was mostly recruited in the Lamone Valley and especially in the town of Brisighella.<sup>65</sup> At the time of the siege of Padua by emperor Maximilian I, the troops led by Dionigi were considered by Guicciardini amongst the best infantry available in Italy.<sup>66</sup>

Cerignola was really the first triumph of the defensive-counteroffensive concept both on a tactical and on a strategic level: Gonzalo de Cordoba accepted the trial by battle only after he succeeded in wearing down the enemy during a protracted campaign, in which he compelled the French to scatter and exhaust their forces in the futile attempt of reducing the various Spanish strongpoints. At this point we can go back to the second part of the said maxim by Guicciardini: if the short and lively war introduced by the French made clear that an entire state could be won or lost by a single campaign, after 1521 «the lord Prospero [Colonna], committing himself to the defence of Milan, taught how to foil the impetus of an army, so that through his example the masters of the states could go back to the same security they had enjoyed before 1494, though for a different reason: before then such a security stemmed from men not being into the art of offence, now it proceeds from them being into the art of defence».<sup>67</sup> This way Guicciardini recognizes the contribution of the martial tradition embodied by the condottieri to the final triumph of the *cunctatio*, even though he is understandably more impressed by the masterful campaign led by Colonna in 1521-22 than by his seminal – yet less spectacular – contribution to the overall development of the art of war made at Cerignola. The former is worth mentioning because it impressively stresses the predominance achieved by field fortifications in the coeval conduct of operations. Placed in overall command of the papal and imperial forces and tasked with expelling the French from Lombardy, Prospero Colonna succeeded in taking Milan in November 1521, thanks to a sudden assault spearheaded by the German and the Spanish infantry led by the Marquess of Pescara. Unable to evict the soldiers barricaded inside of the castle, however, he resorted to building a complex system of field fortifications aimed at besieging the French garrison, while foiling any attempt by the army led by Lautrec to lift the siege. Thus, he built «two parallel crescent-shaped trenches

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65 Alessandro Bazzocchi, *La ricerca storica e archivistica su Dionigi e Vincenzo Naldi in rapporto alla dominazione veneziana nella Valle del Lamone*, Faenza: Carta Bianca, 2010, p. 36 ff.; Andrea Santangelo, *Cesare Borgia. Le campagne militari del cardinale che divenne principe*, Roma: Salerno Editrice, 2017, p. 75.

66 Guicciardini, *Storia d'Italia*, VIII, XI, p. 763.

67 Guicciardini, *Ricordi*, p. 85.

[...] over a distance of one mile [...] backed by a continuous rampart»:<sup>68</sup> served by a road traced in between the trenches and bolstered by bastions meant to provide enfilade fire, the system effectively prevented the French from relieving the castle and was considered the marvel of its age.<sup>69</sup> Lautrec was compelled to fall back, shadowed by Colonna who refused to engage in battle while making sure to always encamp in virtually impregnable positions. At last, short on supplies and with the pay for his Swiss mercenaries in arrears, Lautrec was compelled to attack the fortified imperial camp at Bicocca and defeated with heavy casualties: it was the last significant engagement in the open field before the decisive battle of Pavia in 1525.

Already in 1921 Taylor correctly noted that from Cerignola up until the climatic confrontation into the walled park of Mirabello, every important battle of the Italian Wars «took the form of an attack on an entrenched camp».<sup>70</sup> Ditches and earthworks, as said, were essential for bolstering missile infantry and arquebusiers and, in turn, they made the development of an efficient field artillery a paramount need. In this regard the Italian states were swift in copying the superior design of the French guns, and the edge enjoyed by their artillery was short-lived: already in 1496 the Venetians hired Basilio della Scola, a former commander of the French artillery, and started the production of 100 pieces (6-12 lb long-barrelled guns) mounted on wheeled carriages.<sup>71</sup> At the battle of Ravenna in 1512 it was the Italian artillery of the Duke Alfonso d'Este to prove decisive when, after converging on the right flank of the Holy League encampment, it opened a murderous enfilade fire evicting the Spanish and Papal troops from their entrenchments and thus exposing them to the charge of the French heavy cavalry.<sup>72</sup> But aside from the notable exception represented by Venice the issue was, on the one hand, that the heavy investments and the kind of central planning needed to develop and deploy an efficient artillery favoured the big and relatively centralised monarchies enjoying higher fiscal revenues; on the other hand, after 1494, the political fragmentation of the Italian peninsula and

<sup>68</sup> Taylor, p. 149.

<sup>69</sup> Giovio, *La vita*, II, IV, pp. 278-279 considers the double line of circumvallation and countervallation as directly inspired by the siege works around Alesia as described in the *Caesarian Commentaries*. Taylor, p. 178 suggests that the humanist was led astray by his classical studies and jumped to wrong conclusions given «the obvious resemblance between the two works».

<sup>70</sup> Taylor, pp. 44-45, 79, 110.

<sup>71</sup> Mallett, *L'organizzazione militare di Venezia nel '400*, Roma: Jouvence, 1989, pp. 113-114.

<sup>72</sup> Guicciardini, *Storia d'Italia*, X, XIII, p. 996; Taylor, pp. 189-190.





«Ponte d'Alessandro Farnese Dvca di Parma sv la Schelda», in Francesco Patrizi, *Paralleli militari ... ne' quali si fa paragone delle milizie antiche, in tutte le parti loro, con le moderne*. In Roma : appresso Luigi Zannetti, 1594-1595. [Source: ETH-Bibliothek Zürich, Rar 2767, Public Domain Mark 1.0]





the need of most local political actors to rely on foreign powers, entailed that any achievement ended up working for the French or the Imperial forces in competition for the mastery of Italy. This was true not just for the artillery and any other kind of technical improvement but, as shown, for every aspect of warfare ranging from logistics, to tactics, to the strategic thought. The Italian Wars turned out to be the crucible of the modern art of war but, as noted by Michael Mallett, Italy was to be consumed in the flames.<sup>73</sup>

### III. ITALY BEYOND ITALY

The final victory reaped by the House of Habsburg and the decision by the French to waive any claim on Milan and Naples can be considered the fulfilment, in a certain way, of the Machiavellian wait for a “new prince” capable of unifying Italy:<sup>74</sup> being this prince the king of Spain, though, instead of getting rid of the “barbarians” his accession saw most of the peninsula – with the notable exception of Venice – being directly or indirectly integrated in a global empire. The *pax hispanica* ushered in by the Treaty of Cateau-Cambrésis had the effect of freezing the fierce and destabilising competition between the Italian states, now under the ascendancy of Madrid, thus giving Italy a peace bound to last up until the Thirty Years War. At the same time Spain provided an international stage to the Italian aristocracies willing to perpetuate their martial traditions and to the military professionals eager for recognition. Paramount among the latter were the Italian military engineers, whose mastery of the *trace italienne* was deemed unrivalled since when Michele Sanmicheli, according to Giorgio Vasari, first perfected the pentagonal bastion.<sup>75</sup> Gregory Hanlon stressed that 26 published works on fortification out of 32 we can account for between 1554 and 1600 were Italian:<sup>76</sup> as for the practical contributions, these stretched from Flanders, where Francesco Pacciotto built the citadel of Antwerp,<sup>77</sup> to the Morro Castle at Habana designed by Battista Antonelli.<sup>78</sup> In 1567, in choosing the site for the new fortress along the right bank of the Scheldt, Pacciotto consulted

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73 Mallett, *Mercenaries*, p. 260.

74 Machiavelli, “Il Principe”, in *Opere*, XXVI, p. 901.

75 Fara, *La città da guerra*, p. 15.

76 Hanlon, *The Twilight*, p. 73.

77 Giampiero Brunelli, “Pacciotto, Francesco”, *Dizionario Biografico degli Italiani* (henceforth, *DBI*), vol. 80, 2014.

78 Fara, *Il sistema e la città*, p. 56.

with two other renowned engineers, Gabrio Serbelloni and Chiappino Vitelli:<sup>79</sup> just a year earlier the former had been sent to Malta by king Philip II in order to supervise, together with Francesco Laparelli, the reconstruction of the defences damaged by the Great Siege, focusing especially on Fort St. Angelo and Fort Saint Elmo.<sup>80</sup> As for the evolution of the siege tactics, Enrico Rocchi observed that the main principles of the future scientific siege codified by Vauban were already applied, although in an asystematic and not fully developed form, by the Italian military engineers working in the second half of the XVI century.<sup>81</sup> Their contributions were eminently practical and it seems they were still largely based on the fundamental lessons of the Italian Wars: the said Vitelli, for example, in 1572 introduced during the siege of Mons the same system of circumvallation and countervallation lines devised half a century earlier by Prospero Colonna besieging Milan.<sup>82</sup>

Alessandro Farnese, governor of Flanders between 1578 and 1592 and a man with some empirical knowledge of military architecture, came to rely heavily on the Italian engineers:<sup>83</sup> put to the test by the impervious terrain of the Low Countries which maximised the advantages of fortresses and field fortifications, thus moulding a theatre in which siege warfare was paramount, their finest hour was probably the siege of Antwerp in 1584-85 aimed at retaking the citadel built by Pacciotto less than twenty years earlier. The realisation of the great bridge across the Scheldt, designed by Giovanni Battista Piazzzi and built by Properzio Barozzi, succeeded in blocking the river and severing the lifeline of the Dutch

79 Duffy, *Siege Warfare*, pp. 67-68.

80 Carlo Promis, "Biografie di ingegneri militari italiani, dal secolo XIV alla metà del XVIII", in *Miscellanea di storia italiana edita per cura della Regia Deputazione di Storia Patria*, Torino: Fratelli Bocca Librai, 1873, pp. 218-219.

81 Enrico Rocchi, *Le fonti storiche dell'architettura militare*, Roma: Officina Poligrafica Editrice, 1908, pp. 429-430. The author came to such a conclusion especially by analysing the manuscript of *L'arte pratica generale della guerra* by Flaminio Alticozzi, detailing the sieges captain Alticozzi took part in. Already anticipating Vauban's concept of an easily defensible "scientific border" represented by the *pré carré* was also the barrier realised back in 1411-12 along the Livenza river by the Venetians: it combined extensive field fortifications and encampments for the garrison troops with the natural chokepoints provided by the terrain. See: Mallett, *L'organizzazione militare*, pp. 122-123.

82 Duffy, *Siege Warfare*, p. 70.

83 Oronzo Brunetti, "Alessandro Farnese: Brave as Achilles, Ingenious as Ulysses?", in *«Ser hechura de»: engineering, loyalty and power networks in the Sixteenth and Seventeenth Centuries*, Madrid: Fundación Juanelo Turriano, 2019, p. 73.



garrison despite the desperate attempts by the latter to blow it up.<sup>84</sup> According to the estimates provided by Geoffrey Parker, under Parma there was also an increase in the number of the Italian troops deployed in Flanders: starting from 1582, the *tercios* recruited in the peninsula began playing a prominent role in the war. They would have retained it after Parma's death in 1592 and up until 1640.<sup>85</sup> Only between 1565 and 1600 no less than 18 separate Italian *tercios*

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84 Brunetti, "Alessandro Farnese", pp. 74-75; Rocchi, *Le fonti storiche*, pp. 434-436.

85 Parker, *The Army of Flanders*, p. 24.

Naval battle of the combined Venetian and Dutch fleets  
against the Ottomans at Phocaea (Focchies) in 1649.

Painting by Abraham Beerstraten, 1656. Rijksmuseum,  
Amsterdam. Source: Wikimedia Commons.





were despatched to the Low Countries;<sup>86</sup> the underlying reason of this transfer of forces from the peninsula to such a far-separated theatre was already clarified by Parker in stressing that «experience showed that the military effectiveness of most troops increased in direct proportion to the distance of the theatre of operations from their homeland».<sup>87</sup> Italy was not just a source of manpower and revenues for Spain: the geostrategic importance of Milan as a logistical hub

86 Hanlon, *The Twilight*, p. 72.

87 Parker, *The Army of Flanders*, p. 25.





and as a part of the Spanish Road represented a fundamental prerequisite for Madrid to be able to reinforce the troops in Flanders; and the war there must be carried on, if we accept the assumption that king Philip II was driven not just by religious intolerance, rather by an authentic “messianic imperialism” further stiffened by the resounding victory at Lepanto.<sup>88</sup> In turn, holding Milan entailed the maritime control of the Ligurian coastline and especially of the marquisate of Finale, the «puerta del mar» of Lombardy finally annexed by Spain in 1602. As the marquess of Villafranca – governor of the Duchy of Milan on the eve of the Thirty Years War – put it, «por ninguna causa ni impedimento se deje de acabar el puerto de Final, en que no hay dificultad si se quiere hacer de veras».<sup>89</sup> Therefore the very existence of the Spanish road running from Milan to the Flanders, via the Duchy of Savoy or the Valtellina, depended on safeguarding the sea lines of communication connecting Catalonia with the Milanese and, further south, with the Kingdom of Naples whose maritime gateway was represented by the State of the Presidi in Tuscany. The key of the system was the Republic of Genoa which provided not only the financial sinews of the Spanish crown, but also prevented due to its position the unravelling of an empire whose main weakness had always been represented by the scattering of its possessions.

Such a state of affairs was recognized already at that time, as shown by the *Testament politique de Richelieu* in which the French minister stated that «la separation des Estats qui forment le corps de la monarchie espagnole en rend la conservation si difficile que, pour leur donner quelque liaison, l’unique moyen qu’ait l’Espagne, est l’entretien de grand nombre de vaisseaux en l’Océan, et de galères en la Méditerranée, qui, par leur trajet continuel, réunissent en quelque façon les membres à leurs chefs».<sup>90</sup> Unsurprisingly the vital task performed by the Spanish naval forces in the Mediterranean was duly recognized by the acknowledged founder of the French Navy; and even though Fernand Braudel maintained that a strategic shift of the Spanish interests from that sea to the Atlantic Ocean took place around 1580 – after the annexation of Portugal – in order to focus on the Dutch rebels and England,<sup>91</sup> it has been recently argued

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88 Geoffrey Parker, *The Grand Strategy of Philip II*, New Haven and London: Yale U. P., 1998, pp. 100-101, 160.

89 Arturo Pacini, *Desde Rosas a Gaeta. La costruzione della rotta spagnola nel Mediterraneo occidentale nel secolo XVI*, Milano: FrancoAngeli, 2013, p. 132. The author, however, maintains that the Spanish government attached a disproportionate importance to Finale.

90 Françoise Hildesheimer (ed.), *Testament politique de Richelieu*, Paris: Champion, 1995, p. 326.

91 Fernand Braudel, *Civiltà e imperi del Mediterraneo nell’età di Filippo II*, Torino: Einaudi,

that such an abandonment never really took place. The naval conflict with the Ottoman Empire was tacitly scaled down after the loss of Tunis in 1574, but the Spanish commitment in the Mediterranean between 1560 and 1620 should be rephrased in terms of continuity.<sup>92</sup> Such a theatre could not be abandoned because the galleys of the king of Spain were not simply aimed at countering the naval arm of the Ottoman expansion: they also played a role as vital in seaming together the limbs of the monarchy as the one performed in the Atlantic by the *Armada de la Guardia de la Carrera de Indias*, tasked with convoying and protecting the American silver shipped to Seville. The Italian contribution to this effort was dominant because speaking of the Spanish fleet means referring mostly to Italian galleys based in Naples and Sicily or rented by Genoese *asentistas*;<sup>93</sup> specifically, the role of the latter was pivotal up until 1560 and retained its importance for the last part of the XVI century and the first half of the subsequent one.<sup>94</sup>

These basic facts were long overlooked because of the misconceptions weighing on galley warfare. John F. Guilmartin was the first one pointing at the distortions brought about by the Mahanian framework in interpreting the application of sea power in history: if the control of the sea was a product of fleets capable of staying at sea long enough to perform tasks such as cutting the trade routes of the enemy and blockading its ports, galleys fell dramatically short of these expectations because of their limited autonomy.<sup>95</sup> Therefore galley warfare had to be labelled as inherently backward in view of an evolutionary process whose necessary end point was supposedly represented by the sailing ship capable of operating at sea for months. Such an argument drew strength from the mere fact that sailing ships were stably integrated into the Mediterranean fleets only around the half of the XVII century; this line of reasoning failed to consider that that happened because of the irreconcilable issues arising from the

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1986, vol. II, pp. 1272-1273.

92 Phillip Williams, *Empire and the Holy War in the Mediterranean. The Galley and Maritime Conflict between the Habsburgs and Ottomans*, London and New York: I. B. Tauris, 2015, pp. 227-233.

93 Hanlon, *The Twilight*, p. 15.

94 Emiliano Beri, "L'ammiraglio e il generale. Federico e Ambrogio Spinola da Genova alle Fiandre", in Emiliano Beri (ed.), *Dal Mediterraneo alla Manica. Contributi alla storia navale dell'età moderna*, Roma: Società Italiana di Storia Militare – Nadir Media, 2022, pp. 108-109.

95 John F. Guilmartin, *Gunpowder and Galleys. Changing Technologies and Mediterranean Warfare at Sea in the 16<sup>th</sup> Century*, London: Conway Maritime Press, 2003, pp. 18-19, 31-36.

need of coordinating ships of starkly different sailing qualities like the sailing ship and the galley. All the Renaissance navies had to come to grips with this predicament,<sup>96</sup> but while the Atlantic navies solved it by phasing out the galley, in the Mediterranean it fell on the sailing ship to be quietly phased out shortly after the embarrassing fiasco at Prevesa in 1538.<sup>97</sup> The galley was simply better suited for the kind of amphibious operations led in the shallow coastal waters of the Mediterranean, and only significant improvements in the sailing qualities paved the way for a comeback of the sailing ship a century later. To these critical remarks already made by Guilmartin I can add that the Mahanian framework is ill-suited also in addressing the interdependence between fleet operations and privateering typical of Mediterranean naval warfare. While for Mahan *guerre d'escadre* and *guerre de course* were mutually exclusive forms of war, with the latter strategically ineffective in achieving the command of the sea and a squandering of resources which ought to be better invested in fitting out powerful battlefleets,<sup>98</sup> the so-called *el corso* always represented the best way for a squadron of galleys to improve the ships. It let them add new slaves to the crews and exercise the oarsmen, while avoiding the dangers of a set-piece battle.<sup>99</sup>

The naval strategy pursued by both the Christian states and the Ottoman Empire was therefore crafted by the peculiar amphibious qualities of the galley: such a strategy usually refrained from naval battles and rather focused on conquering or defending coastal strongpoints which, in turn, could support friendly fleets in protecting their sea lines of communication and menacing those of the enemy:<sup>100</sup> beside explaining the operations on north African coast which revolved around positions like Tripoli, Tunis, Algiers and Oran, this pattern could also account for the sieges laid by the Ottomans to Malta in 1565, Famagusta in 1571 and Candia in 1648-69. Just like Cyprus and Crete sat astride the Ottoman sea lines in eastern Mediterranean, Malta dominated the lines of communication to and from Algiers, dividing the latter from the eastern regencies of the Barbary Coast. It can be added to these broad remarks that the general scarcity

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96 On the attempt by the Tudor Navy to combine the galley and the sailing ship tactically, «a problem which the Italian admirals had hitherto found insoluble», see: Julian Corbett, *Fighting Instructions, 1530-1816*, London: Publication of the Navy Records Society, 1905, pp. 18-19.

97 Simone Lombardo, "La strada verso Algeri. La guerra mediterranea del 1537-40 tra la Lega Santa e gli ottomani", in Beri (ed.), *Dal Mediterraneo*, pp. 34-36.

98 Mahan, *Influence of Sea Power upon History*, Boston: Little, Brown, and Company, 1890, pp. 133-138, 247, 341, 398, 461, 538-539.

99 Williams, *Empire and Holy War*, p. 51.

100 Guilmartin, *Gunpowder*, pp. 73, 91-96.

of pitched naval clashes stemmed from the political disunion of the Christian powers, which made difficult to gather the forces needed to engage in battle with the huge fleets the Ottomans were usually able to fit out. Only twice the two paramount Christian powers of the Mediterranean – Spain and Venice – acceded to the same alliances, the Holy Leagues of 1538 and 1571: the first one was unravelled by the already mentioned fiasco of Prevesa while Lepanto, albeit a tactical triumph, failed to have lasting strategic consequences. Venice made a separate peace with the Porte without recovering Cyprus, while the Spanish success at Tunis proved short-lived, because the following year the Ottomans retook the city.<sup>101</sup> Such a disappointing record was in part dictated by the peculiar interests of Venice, which tried to maintain a rigorous neutrality aware that any war against the Ottomans would have entailed the loss of precious market shares: this strategic conundrum stemmed from the Ottoman Empire being the most dangerous enemy of the Republic and its best trade partner at the same time, one Venice depended upon.<sup>102</sup> The one unpleasant truth about the strategic balance between the allies and the Ottomans, however, had been spelled out by the Duke of Alba: the might of the Porte could not be defeated «without attacking it simultaneously in the Mediterranean and in Hungary».<sup>103</sup>

In this respect, it is worth stressing that the main thrust of the Ottoman expansion had always been directed toward the Hungarian plains. In order to assess the contribution of the Italians to this theatre I am convinced that a prosopographical approach is the best suited to underscore the mobility and professionalism of the many military experts willing to further the cause of the House of Habsburg by serving both its Spanish and Austrian branches. The roman patrician Camillo Capizucchi, for example, fought in Hungary twice: the first stint in 1564 was followed by other experiences during the French Religious Wars and the campaign of Lepanto. Crucial, however, was the long and formative period spent in the Army of Flanders, the best military proving ground of that age. He rose to be one of the trusted subordinates of Alessandro Farnese, and after taking command of an Italian *tercio* he had a prominent role both in the siege of Antwerp and in the preliminary operations of the botched *Empresa de*

101 Hüseyin Serdar Tabakoğlu, “Repercusiones y consecuencias de la batalla de Lepanto”, in Àlex Claramund Soto (ed.), *La mar roja de sangre. Lepanto*, Madrid: Desperta Ferro Ediciones, 2021, pp. 314-21.

102 On the peculiar ambiguities of the venetian-ottoman relationship see, Paolo Preto, *Venezia e i Turchi*, Roma: Viella, 2013.

103 Williams, *Empire and Holy War*, p. 156.

*Inglaterra* in 1588.<sup>104</sup> The Duke of Parma, despite being a harsh disciplinarian, was held to be partial to the Italians and to protect them: in the hostile climate following his death in 1593, with troops mutinying because of late payments and the authority of the Italian commanders sapped by the insubordination of their Spanish officers,<sup>105</sup> understandably Capizucchi decided to go back to Rome two years later. In 1597 he took part to the second of the three expeditions in Hungary organised by pope Clement VIII as *maestro di campo generale*: after distinguishing himself at the sieges of Pápa and Győr, and bravely commanding the rear-guard of the papal army during the winter retreat, he died in Colmar of exhaustion or more probably plague.<sup>106</sup> Giorgio Basta, the Italian-Albanian son of a cavalry commander hailing from Epirus, followed a similar path: after starting to serve in the Army of Flanders under don John of Austria, his talent was later recognized and fully valorised by Parma, who appointed him general commissar of the cavalry. In 1596, following the example of many of the late duke's right-hand men, he resigned and offered his services to the archduke Matthias, being awarded with the rank of *maestro di campo generale*. Then appointed commander in chief of the imperial forces in Transylvania, despite his successes on the battlefield it seems that the harsh handling of the population and the enforced policies of catholicisation earned him such a hatred that, after a revolt, the archduke was compelled to recall him.<sup>107</sup> In retirement he became a prolific writer on military matters and his treatise on the handling of the light cavalry was later appreciated by Montecuccoli.<sup>108</sup> Besides, the three crusades launched by pope Clement VIII, despite their ultimate failure, let us catch an interesting glimpse of the coeval strategic debate in a war effort whose unique peculiarity was to be nearly entirely run by Italian commanders with a solid international background. Before the first expedition in 1595 the designated captain general Pietro Aldobrandini urged the papal military aristocracy to submit their opinions on the organisation of the incipient campaign: in that occasion Lotario Conti,

<sup>104</sup> Mirella Giansante, "Capizucchi, Camillo", *DBI*, vol. 18, 1975.

<sup>105</sup> Hanlon, *The Twilight*, pp. 75-76.

<sup>106</sup> Giampiero Brunelli, *La santa impresa. Le crociate del papa in Ungheria (1595-1601)*, Roma: Salerno Editrice, 2018, pp. 112, 118-119.

<sup>107</sup> Gaspare de Caro, "Basta, Giorgio", *DBI*, vol. 7, 1970. De Caro does not make mention of the tyrannical regime run by Basta in Transylvania, whose details come from Hanlon, *The Twilight*, pp. 83-85.

<sup>108</sup> Ilari, *Scrittori*, pp. 148-151; Raimondo Montecuccoli, "Trattato della guerra", in Raimondo Luraghi (ed.), *Le opere di Raimondo Montecuccoli*, Roma: USSME, 2000, vol. I, p. 127: at the beginning of his treatise Montecuccoli praises Basta as one of the few military writers "[che] ha avuto la pratica congiunta alla speculativa".



who had had a brief stint in the Army of Flanders, delivered a draft in which advised Aldobrandini to follow «a guisa di Fabio Massimo far la guerra con circospettione, et cunctando».<sup>109</sup> During the second expedition of 1597, however, while briefly staying in Vienna Aldobrandini was briefed by Achille Tarducci, who delivered the manuscript of his latest treatise, *Il Turco vincibile in Ungaria*, to the captain general: Tarducci, a military engineer who had been compelled to retire on health grounds after a distinguished career at the service of Zsigmond Báthory, prince of Transylvania, advocated an offensive war aimed at engaging some decisive battle with the Ottomans, instead of confining the operations to the wearing sieges and the desultory cavalry skirmishes which usually connoted the Hungarian campaigns.<sup>110</sup> Forty years after the ending of the Italian Wars with the triumph of the attrition strategy, the dilemma between *cunctatio* and *guerra corta e grossa* still encumbered the minds of the Italian military professionals: the end of the *pax hispanica* and the involvement of the peninsula in the Thirty Years War would have put them to a far more demanding test.

#### IV. "ITALIA MI VENTURA"

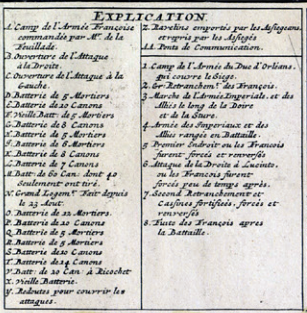
Given what I already stressed about the role of Liguria in the Spanish Road, the strategic assessment made in 1625 by the anti-Spanish coalition of France, Savoy and the United Provinces about Genoa being the "weak underbelly" of the empire was correct.<sup>111</sup> The situation directly leading to the first involvement of France into the Thirty Years War, though, dated prior to Richelieu's assumption to power in 1624 and can be traced back to the clumsy moves of Madrid in ensuring its access to Valtellina: this Swiss valley, under the control of the Calvinist Rhetian Council, was considered fundamental by the Spaniards for linking up the Milanese with the Empire via Tyrol, although it represented a less satisfactory route for moving troops to the Low Countries. On the backdrop of the increasing French menace to the Spanish Road, and the unreliability of the duke Charles Emmanuel of Savoy after the signing of the mutual defence treaty with France in 1610, however, its control was the best option for Madrid in keeping open the lines of communication with central and northern Europe.<sup>112</sup> In July 1620 an uprising of the Catholics in Valtellina tacitly backed by the governor of Milan, the Duke of Feria, unleashed the "holy slaughter" of at least

<sup>109</sup> Brunelli, *La santa impresa*, p. 56.

<sup>110</sup> *Ibid.*, pp. 101-104; Ilari, *Scrittori militari*, pp. 707-709.

<sup>111</sup> Hanlon, *The Twilight*, pp. 106-107.

<sup>112</sup> Parker, *The Army of Flanders*, pp. 60-64.



*Plan de la ville et citadelle de Turin, assiégées par l'armée de France le 3e juin 1706 et secourues par Leurs Altesses Royale et Sérénissime de Savoye le 7e septembre de la même année.* Atlas Major, Bd. 18, Tvl. 51, À la Haye, chez R. C. Alberts [Rutgers Christoffel Aalbertsz (1691-1732)] Source: Det Kgl. Bibliothek (Royal Danish Library), Materialet er fri af ophavsret. Details on the following pages.















300 protestants: the Rhetian troops stroke back, but the direct involvement of the Spanish troops led to their defeat and the partial annexation of Valtellina to Austrian Tyrol. The aggressive move of the Duke of Feria, sanctioned by Olivares, upset the *quietud de Italia* upon which rested most of the Spanish system and worried the Italian states: the Duchy of Savoy and Venice reacted by signing in February 1623 the Treaty of Lyons with France, which envisaged the organisation of an army for evicting the Spaniards from northern Italy.<sup>113</sup> Finally in 1625 Charles Emmanuel and the Duke of Lesdiguières invaded Genoa with a 30.000-men army formed by a third of French troops, while the Duke of Estrées joined his forces with those of the Rhetian Council attempting to recover the Valtellina. Only a handful of scattered garrisons in Liguria stood between the coalition and the cutting of the lines of communication between Spain and Milan, but Genoa proved able to mount a stiff resistance until the city was relieved by the joint efforts of the Duke of Feria from Milan and the Marquis of Santa Cruz, who was able to get inside of the port with 23 galleys hailing from Naples and Messina.<sup>114</sup> Once more the vital role played by the Spanish Navy in the Mediterranean was reconfirmed. In 1626 the Treaty of Monzón temporary settled the issue by restoring the *status quo ante* and a year later the outbreak of the Third Huguenot Uprising distracted Richelieu from committing the French forces against the House of Habsburg.

Despite this failure, the underlying idea of striking at Genoa and Milan in order to detach the limbs of the Spanish Empire from their head remained the linchpin of the French strategy in Italy. The opportunity for a second intervention arose from the succession crisis sparked off by the death without issue of Vincenzo II, Duke of Mantua and Monferrato, which made heir to the duchy Charles, belonging to French branch of Gonzaga-Nevers. Once again, though, the way for such an intervention was paved by the rash course of action taken by the Spanish government.<sup>115</sup> Wary of a French noble at the head of such a strategic territory, the usually circumspect Olivares decided to seize the opportunity for invading the Monferrato and take the citadel of Casale, whose importance laid in sitting astride one of the main access routes to Spanish Lombardy: his

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113 Peter H. Wilson, *The Thirty Years War: Europe's Tragedy*, Cambridge: The Belknap Press of Harvard U. P., 2009, pp. 381-382.

114 Cesáreo Fernández Duro, *Armada Española desde la Unión de los Reinos de Castilla y de Aragón*, Madrid: Est. Tipográfico «Sucesores de Rivadeneyra», 1898, vol. IV, pp. 66-67.

115 On the causes and the course of the War for the Mantuan Succession still fundamental is: Romolo Quazza, *La guerra per la successione di Mantova e del Monferrato*, 2 voll., Firenze: Leo S. Olschki, 1926.

calculation was based on the belief of being able to swiftly occupy the strong-point before the French forces, still bogged down in the siege of La Rochelle, could intervene.<sup>116</sup> This scheme failed most spectacularly: Olivares probably hoped for the governor of Milan, Gonzalo Fernández de Córdoba, to march on Casale without waiting for his decisions to be sanctioned by Madrid. Córdoba unfortunately opted for the opposite course of action and squandered precious time in bolstering his few and ill-equipped soldiers, letting Charles de Nevers reinforce the garrison.<sup>117</sup> When he moved it was too late, and with the siege dragging on the strategic picture got increasingly bleak for Spain: after reducing La Rochelle, a French Army headed by King Louis XIII himself set off on 1 March 1629 and broke through the Susa valley: the forces of the duke Charles Emmanuel of Savoy, this time allied with the Spaniards because of his designs on the rest of Monferrato, quickly surrendered and Córdoba was compelled to fall back.<sup>118</sup> What is more, the Italian and the Dutch theatres of war showed to be inextricably intertwined, because hastily reinforcing the former could be done only at the expense of the latter:<sup>119</sup> the simple decision of sacking Córdoba and replacing him with Ambrogio Spinola, for example, had the immediate consequence of reinvigorating the Dutch resistance.<sup>120</sup> Spinola was probably the foremost siege expert of his age, taking pride in the conquest of Ostend in 1604, Rheinberg in 1606, Jülich in 1622 and Breda in 1625.<sup>121</sup> In the long run, however, he proved unable to reduce Casale, whose resistance was now galvanised by the reinforcements the King of France had been able to throw into the fortress before retiring again in order to quell a new Huguenot uprising. Given a situation further compounded by the news of the Savoyard about-face – with Charles Emmanuel first making peace with France and then passing to the en-

116 John H. Elliott, *La Spagna e il suo mondo, 1500-1700*, Einaudi: Torino, 1996, pp. 181-183.

117 John H. Elliott, *Il miraggio dell'impero. Olivares e la Spagna: dall'apogeo al declino*, Roma: Salerno Editrice, 1991, vol. II, pp. 403-406, 410-411.

118 Hanlon, *The Twilight*, p. 112.

119 See Geoffrey Parker (ed.), *La guerra dei Trent'anni*, Milano: Vita e Pensiero, 1994, pp. 187-188, on the attempt by Spinola to convince the State Council to sign a truce with the United Provinces in order to focus the war effort on Mantua. On Spinola's belief that Spain could not win the in the Low Countries – even less while pressed elsewhere – the details of the subsequent heated debate and the ultimate failure of the diplomatic overture towards the Dutch, see: Elliott, *Il miraggio*, pp. 414-429.

120 Elliott, *Il miraggio*, p. 416, 422.

121 Giampiero Brunelli, "Spinola, Ambrogio", *DBI*, vol. 93, 2018; on the beginning of Spinola's career as an *asentista* of the King of Spain with his brother Federico, see: Beri, "L'ammiraglio e il generale", pp. 115-121.

emy's camp in return for the recognition of his rights on the Monferrato – and with the complete annihilation of the Spanish treasure fleet in the Cuban bay of Matanzas finally made public,<sup>122</sup> Olivares had no option other than invoking the assistance of the imperial armies. Ferdinand II, more concerned by restoring his authority on the imperial fiefs of Mantua and the Monferrato than remedying the Spanish blunders, complied: after securing the strategic corridor of Valtellina in

122 Ibid., pp. 434-436. For the details of the disaster of Matanzas, see: Carla Rahn Phillips, *Six Galleons for the King of Spain. Imperial Defence in the Early Seventeenth Century*, Baltimore and London: The Johns Hopkins U. P., 1992, pp. 3-8, 103-108.

Caspar van Wittel (1653-1736), *The Darsena of the Galleys*, Naples. Source: Museum Flehite, Amersfoort, licensed in Public domain (Wikimedia commons). One of the many views of the military port of Naples painted by “Vanvitelli” between 1708 and 1714, including those in the Carmen Thyssen Collection (Thyssen-Bornemisza National Museum), the Royal Museums Greenwich, the Gallery of the Colonna Palace (Rome) and the National Trust, Kedleston Hall and Eastern Museum, Derby.





April 1629, an army led by Rambaldo di Collalto<sup>123</sup> descended on Mantua, while the Spanish forces under Spinola kept besieging Casale. The war of attrition moved in again, with the usual trail of despoliations, wanton destructions and atrocities at the expense of the population: non even a renewed French intervention, launched after both the Habsburg armies marched into winter quarters

<sup>123</sup> A commander with an undistinguished military record, Collalto was nonetheless an able courtesan and, as the president of the *Hofkriesgrat*, an influential patron of a generation of Italian military entrepreneurs. See: Gino Benzoni, "Collalto, Rambaldo", *DBI*, vol. 26, 1982; Hanlon, *The Twilight*, p. 96.



and the siege operations around Casale and Mantua languished, was able to accomplish anything significant. Again, in February 1630 Louis XIII advanced in Italy along the same route taken a year earlier but he was compelled to fall back after capturing the Savoyard Pinerolo, which would have remained in French hands as an important strategic outpost in Italy. With the operations retaking momentum in the springtime Mantua was finally captured on 18 July and brutally sacked, but Casale held on:<sup>124</sup> Spinola would have died just two months later. The Regensburg settlement in same year, later perfected by the Treaty of Cherasco signed in 1631, finally put an end to the war in Italy by restoring the *status quo ante* and confirming Charles de Never as legitimate Duke of Mantua. Unlike 1625, however, this time Spain had suffered a serious reversal: Madrid had lost its best general, thousands of troops and 10 million *escudos* for gaining nothing in exchange. As John H. Elliott put it, due to his miscalculation Olivares had unleashed total war on Italy<sup>125</sup>; what is more, the most promising window of opportunity – opened by the defeat of Christian IV of Denmark – for a decisive joint offensive by the Spanish and Imperial forces against the United Province had been wasted.<sup>126</sup>

While in hindsight the crisis for the Mantuan succession could be considered as one of the turning points of the Thirty Years War, Richelieu had accomplished almost nothing aside from weakening Madrid. The waning of the Spanish strength was not even immediately apparent: in 1634, for example, an army of 10.000 foot and 2.000 cavalry was gathered in Milan under the command of the Cardinal-Infante – appointed governor of Flanders – with the avowed task of reopening the Spanish Road by clearing the Rhine Valley. Led on the field by the experienced Marquis of Leganés, son-in-law of the late Spinola, the Spanish forces crossed the Valtellina and during the march north they linked up in Franconia with an Imperial army headed by the future Ferdinand III and the Italian general Mattia Galasso,<sup>127</sup> inflicting a crushing defeat to the combined Swedish-German army of Horn and Saxe-Weimar at Nördlingen.<sup>128</sup> In the months after the battle France mobilised as much as 80.000 men and in 1636 Richelieu decided to strike back in Italy: as Hanlon pointed out, the conquest of Milan

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<sup>124</sup> Wilson, *Thirty Years War*, pp. 442-446.

<sup>125</sup> Elliott, *Il miraggio*, p. 411.

<sup>126</sup> Parker (ed.), *La guerra*, pp. 189-190.

<sup>127</sup> On Galasso, see: Rotraut Becker, "Galasso, Mattia", *DBI*, vol. 51, 1998.

<sup>128</sup> William P. Guthrie, *Battles of the Thirty Years War. From White Mountain to Nordlingen, 1618-1635*, pp. 262-276; Wilson, *Thirty Years War*, Westport – London: Greenwood Press, 2002, pp. 544-549.



probably figured at the top of his strategic priorities.<sup>129</sup> Like in 1625 the French plan envisaged a two-pronged attack, this time using Casale as pivot of the strategic manoeuvre: the main army of 15.000 French and Savoyards under the joint command of Marshal Créquy and the new Duke of Savoy, Victor-Amadeus, was supposed to invade Lombardy after crossing the Mincio river. In the meantime, a smaller army of 8.000 men led by the Duke of Rohan would have crossed the Alps through the corridor of the Valtellina, thus cutting the lines of communication between Milan and the Austrian Tyrol: these troops, after managing to emerge in the plains south to Lecco, should have linked up with the main force just north of Milan. Odoardo Farnese, the young Duke of Parma, would have provided a strategic diversion by moving his 5.000 men just south of the Po River.<sup>130</sup> This grand plan unravelled when Rohan proved unable to get past the entrenchments at Lecco held by Paolo Sormani, while the bridgehead established by Créquy and Victor-Amadeus across the Mincio at Tornavento was attacked by the Spanish army led by the Marquis of Leganés, the newly-appointed governor of Milan: the tercios failed to take the entrenchments, suffering heavy losses, but the allied army was mauled as well and the Spaniards could disengage in an orderly fashion without being molested by the Franco-Savoyards.<sup>131</sup> The coalition renounced to invade the Milanese and the menace to the Spanish possessions in Italy was ultimately foiled when Olivares spurred the Army of Flanders to take action: headed by the Cardinal-Infante and Tommaso of Savoy<sup>132</sup> the Spaniards invaded Picardy with 25.000 men and took Corbie, coming dangerously close to invest Paris before running out of reinforcements.<sup>133</sup> Tornavento was destined to be the last pitched battle fought in Italy until Marshal Catinat routed the Imperial-Savoyard Army at Marsaglia sixty years later.<sup>134</sup> The war dragged on in a desultory way until the signing of the Treaty of the Pyrenees in 1659: despite the financial unravelling of the monarchy,<sup>135</sup> the progressive paralysis of its war

129 Gregory Hanlon, *Italy 1636. Cemetery of Armies*, Oxford: Oxford U. P., 2016, pp. 20, 35.

130 *Ibid.*, pp. 39, 53. On Odoardo Farnese, see: Gregory Hanlon, *The Hero of Italy. Odoardo Farnese, Duke of Parma, his Soldiers, and his Subjects in the Thirty Years War*, Oxford: Oxford U. P., 2014.

131 *Ibid.*, pp. 82, 88-143, 167.

132 Brother of the Duke Victor-Amadeus, Tommaso Francesco was an accomplished military commander and a staunch political enemy of Richelieu; his ideas led him to enter Spanish service in 1634. See: Paola Bianchi, "Savoia Carignano, Tommaso Francesco", *DBI*, vol. 91, 2018.

133 Wilson, *The Thirty Years War*, pp. 563-565.

134 John A. Lynn, *The Wars of Louis XIV, 1667-1714*, Harlow: Pearson Education, 1999, p. 238.

135 Hanlon, *The Twilight*, pp. 120-121.

effort and the widespread uprisings, the Spanish system in Italy proved fairly resilient and capable of absorbing the shock of the protracted French assaults. In 1646 the French, after taking Piombino and Porto Longone, laid siege to Orbetello.<sup>136</sup> Being the State of Presidi, as already noted, the maritime gateway of the Kingdom of Naples, the aim was again that of severing the sea lines of communication between Spain and southern Italy. The siege, however, was relieved by the Spanish forces after a confused naval battle in which both enemies claimed victory.<sup>137</sup> A year later the French similarly failed in taking advantage of the rebellion of Naples. The Spanish rule in Italy would have been finally thwarted only with the War of the Spanish Succession.

In the while another conflict took place in Italy, one equally indecisive but interesting because it provides us the opportunity to look at a war led and fought predominantly by Italian commanders who, in the case of the Modenese and Tuscan forces, vaunted an extensive experience gained during the Thirty Years War. Since the end of the Italian Wars the Papal States had coherently pursued a policy aimed at reasserting the sovereignty of the pope over the traditional feudal privileges: part of such a course of action was represented by devolving back to the temporal power of the Holy See those feudal states whose ruling dynasties had become extinct in their direct line: this happened in 1598 with the Este, evicted from Ferrara, and again in 1631 with the Della Rovere of Urbino. In October 1641 pope Urban VIII Barberini seized the opportunity represented by the debts due to the Papal treasury by the Duke of Parma to overrun the Duchy of Castro that Farnese held as a feudatory of the pope. Suffice to say that the uncompromising demeanour of pope Urban VIII was fuelled by the extensive military preparations undertaken by the Papal States since the invasion of Genoa by France in 1625: the always bellicose Farnese retaliated with a sort of chevauchee which, in October 1642, was able to push forward unopposed, halting just few days of march short of Rome. Venice, Modena, and Tuscany, already worried by the aggressiveness of the Barberinis, were now enticed to take the field by the perceived weakness of the papal forces.<sup>138</sup> Ferdinand II of Tuscany

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136 Jeremy Black, *European Warfare, 1494-1660*, London and New York: Routledge, 2002, p. 147.

137 The battle itself is noteworthy because fought in little wind between the sailing ships in tow by the galleys. See: R. C. Anderson, "The Thirty Years War in the Mediterranean", in *The Mariner's Mirror*, 56:1, pp. 49-51.

138 For a general overview of the causes and the course of the two Wars of Castro, see: Hanlon, *The Twilight*, pp. 134-142. Giacinto Demaria, "La guerra di Castro e la spedizione de' Presidii (1639-1646)", *Miscellanea di storia italiana*, 3a serie, IV, Torino: Bocca, 1898, pp. 191-256.

and Francis I of Modena proved especially eager to recall their subjects serving under the Habsburgs, so that they could take command of their respective armies: the Grand Duke tried to secure the services of the famed field-marshal Ottavio Piccolomini who, though declining to serve on the battlefield, accepted to drill the Tuscan army according to the most modern standards.<sup>139</sup> The Tuscan government, however, succeeded in recalling the vastly experienced Alessandro del Borro, right-hand man of Mattia Galasso in Germany: as *maestro del campo generale*, Del Borro tried to impress some kind of “vivezza” upon the stagnant operations. Seeking a decision on the battlefield, he took Città della Pieve and on 4 September 1643 near Mongiovino, south of the Lake Trasimeno, he managed to intercept and smash two columns of the papal army.<sup>140</sup> In the meanwhile Raimondo Montecuccoli, already ransomed from his prison in the Stralsund Castle by the Duke of Modena himself, had the opportunity to stand out as well. Leading the Modenese troops, in July 1643 he set out to relieve Nonantola, besieged by 5.000 papal soldiers, while dealing with the bulk of the enemy forces, another 7.000 troops marching from Castelfranco to reinforce the besiegers: counting on the speed to succeed in defeating the two forces *en detail*, Montecuccoli crushed the vanguard of the main enemy army and then, without losing time with the rest, he rushed toward Nonantola and routed the besiegers.<sup>141</sup> Unsurprisingly in his aphorisms Montecuccoli praised «[...] the celerity, virtue belonging to Alexander and Caesar, which produces admirable effects; [because] it lets seize the opportunities and [leaves] the enemy with no safe place».<sup>142</sup> A year later a peace treaty signed at Ferrara would have put an end to the war by restoring the *status quo ante*. On the backdrop of this disappointing outcome, it seems that the most talented Italian commanders, instead of abiding by the lessons of the *cunctatio*, tried to pursue a more daring strategy akin to the Machiavellian *guerra corta e grossa* by actively seeking the open confrontation on the field. It can be guessed that the early phases of the war in Germany, approximately between the White Mountain and Breitenfeld, had accustomed

139 Thomas M. Barker, “Ottavio Piccolomini (1599-1659); a fair historical judgement?”, in Thomas M. Barker (ed.), *Army, aristocracy, monarchy; essays on war, society and government in Austria, 1618-1780*, Boulder, Colorado: Social Science Monographs, 1982, p. 99. Elisa Novi Chavarria, in Id., “Piccolomini, Ottavio”, *DBI*, vol. 83, 2015, does not make mention to such a task performed by Piccolomini for the Grand Duke.

140 Gino Benzoni, “Del Borro, Alessandro”, *DBI*, vol. 36, 1988.

141 Raimondo Montecuccoli, “Relazione al soccorso di Nonantola”, in Andrea Testa (ed.), *Le opere di Raimondo Montecuccoli*, Roma: USSME, 2000, III, pp. 89-90.

142 Raimondo Montecuccoli, “Aforismi dell’arte bellica in astratto”, in Luraghi, *Le opere*, II, pp. 316-317.

them to swift operations punctuated by fierce battles which could really seal the fate of a kingdom in a matter of months: the campaign led by Tilly against Christian IV of Denmark is an example in this regard. Then, they kept trying to apply the same framework even when, approximately at the time of the crisis of Mantua, the war of attrition moved in and started to wear down the opposing armies on all the fronts of the war.

Montecuccoli proved to have some familiarity with the writings of Machiavelli: the very *expression guerra corta e grossa* recurs at least twice in his aphorisms, referred to the kind of war waged by the Romans and the Ottomans.<sup>143</sup> The Florentine secretary, though, did not have a decisive influence on Montecuccoli: the thought of Tommaso Campanella, for example, proved far more seminal in shaping the beliefs of the general.<sup>144</sup> The fundamental difference between Montecuccoli on one side, and Machiavelli and Maurice of Nassau on the other, was the approach toward the authoritative example set by the ancients. The *Stadtholder*, just like Machiavelli before him, believed in the power of the *imitatio*: for him closely reviving (*restitutio*) the Greek and Roman military institutions was an agent of modernisation on the contemporary military affairs.<sup>145</sup> For this reason he accepted the idea, put forward by his cousin Willem Lodewijk, of a countermarch performed by the musketeers based on the example of the *choreus* described in Aelian's treatise; for the same reason he tried to integrate the said countermarch into «various battle orders» inspired by his readings: the *Taktika* by Emperor Leo VI, the *De Militia Romana* by Justus Lipsius, the classical account by Polybius on the battle of Cannae.<sup>146</sup> Montecuccoli would have never sanctioned such a theoretical approach divorced from the practice on the battlefield: especially because the Dutch System proved unable to work properly outside of the peculiar features of the war in the Low Countries, exposing the protestant armies which tried to adopt it on the open field to a long streak of ruinous defeats at the hands of the allegedly backward Spanish and Imperial tercios.<sup>147</sup> As acutely highlighted by Pieri, Montecuccoli deduced all his princi-

143 Montecuccoli, "Aforismi applicati alla guerra possibile col Turco in Ungheria", in Luraghi, *Le opere*, II, pp. 507, 532.

144 Luraghi, *Le opere*, I, pp. 72-76.

145 Ilari, *Imitatio*, pp. 49-56.

146 Werner Hahlweg, *Die Heeresreform der Oranier und die Antike*, Berlin, Junker und Dünhaupt Verlag, 1941 (rist. an. Osnabrück, Biblio Verlag, 1987). Geoffrey Parker, "The Limits to Revolutions in Military Affairs: Maurice of Nassau, the Battle of Nieuwpoort (1600) and the Legacy", *The Journal of Military History*, Vol. 71, No. 2, April 2007, pp. 338-346.

147 Giovanni Cerino Badone, *Potenza di fuoco. Eserciti, tattica e tecnologia nelle guerre europee*



ples from his personal experience as a soldier and then he went looking for some ancient sources able to validate them.<sup>148</sup> Such an approach was dictated not just by an empirical mind, but also by a precise methodological discourse, clearly formulated by the author: experience is the master in everything and usually there is a difference between what is dictated by theory and what is dictated by practice. Therefore, one cannot infer rules from the examples of the Ancients, because if it is a display of arrogance to spurn their wisdom, likewise feeling perpetually bound to their institutions is an absurd form of deference, being the best course of action that one of adapting things to the peculiarities of the age.<sup>149</sup> This way Montecuccoli broke with the Renaissance tradition of the emulation of the Ancients, laying the foundations of an analysis of war more in line with the practical reality of such a phenomenon. Beginning with some basic assumptions, like the need of deploying an army in two or three lines so to count on reserves at the decisive moment, Montecuccoli's thought began to take shape on the field of Breitenfeld and never departed from the experiences acquired during the Thirty Years War:<sup>150</sup> his very theory can be understood as an attempt of perfecting the art of war of Gustavus Adolphus, which in turn stemmed from the need to make the Dutch reforms work by merging the small and scattered units of the "manipular" tactics devised by Maurice of Nassau in bigger brigades with far more cold steel and firepower.<sup>151</sup> In this respect the Thirty Years War entailed a significant break with the tradition both in the political theory – with the crisis of the traditional universalistic paradigms and the emergence of the Westphalian System – and in the military one.

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*dal Rinascimento all'età della ragione*, Milano: Libreria Militare Editrice, 2013, pp. 29-30.

148 Pieri, *Guerra e politica negli scrittori italiani*, Milano: Mondadori, 1975, pp. 80-81.

149 Raimondo Montecuccoli, "Trattato della guerra", in Luraghi, *Le opere*, I, pp. 188-189: «l'uso è maestro di tutte le cose, et ordinariamente c'è differenza fra quello che presuppone la teoria e quello che presuppone la pratica [...] Non si deve già sempre pigliar per danaro contante tutto quello ch'è scritto nelle Istorie, perché molte volte le cause che hanno prodotto gli effetti sono ignorate o falsificate [...] Né si posson anche fabricar regole sopra gli esempi che la necessità ha prodotti se non v'è la medesima ragione che vegnano all'ora: ma si può servirsene accomodandoli a i tempi, a i luoghi et alle persone, e si com'egli è atto di profana superbia lo sprezzare da per tutto la prudenza delli Antichi, così anche è un genere absurdo di riverenza il legarsi perpetuamente a i loro istituti, e bisogna procurare le cose secondo il genio del secolo e secondo la diversità de' tempi ne' quali altri si trova».

150 Pieri, *Guerra e politica*, pp. 87-89.

151 Cerino Badone, *Potenza di fuoco*, p. 31.

## V. FROM SPAIN TO THE COMING OF BRITISH AGE

*Once again, a theatre of Continental wars (1688-1748)*

Even after the Peace of Cateau-Cambrésis (1559), Italy had maintained a great geostrategic importance as a stretch of the *Camino español*, the Spanish logistic artery from Rosas to Brussels<sup>152</sup>. However, the *Camino* was definitively cut off by the French conquest of Alsace (1638) and in 1684 – bombing Genoa<sup>153</sup> while the Italian powers were engaged in the last Holy League against the Turks (1683-1699)<sup>154</sup> – France snatched the *Superba* from its historical relationship with Spain, even if this preserved the Tyrrhenian landings of Finale,<sup>155</sup> of the Presidi and of Gaeta. Between 1688 and 1748 Italy was once again the most important theatre of the war between the Bourbon Crowns and the House of Austria<sup>156</sup>.

Among the consequences, the Central Peninsula of the Mediterranean lost its role of “bridge” or “hinge” between East and West it had had during the previous Austro-Spanish dominance<sup>157</sup>. At the time of the Peace of Aachen (1748), the Apennines had become the geopolitical and cultural frontier between two Italies: a Tyrrhenian and pro-Bourbon Italy (Genoa, Parma, Rome, Naples), heir to the Spanish socioeconomic legacy, and a Padan-Adriatic Italy (Turin, Milan, Modena, Venice) under Austrian and British influence.

Most of these «continental» wars were also «global» wars, fought in the

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152 Geoffrey Parker, *The Army of Flanders and the Spanish Road 1567-1659: the Logistics of Spanish Victory and Defeat in the Low Countries' Wars*, Cambridge U. P., 1972 (*El ejército de Flandes y el Camino Español 1567-1659*, Madrid: 1991).

153 Carlo Bitossi, 1684. *La Repubblica sfida il Re Sole*, Roma-Bari: Ed. Laterza, 2010.

154 Carla Benocci, *L'ultima Lega Santa 1683-1691*, Milan: Acies, 2021.

155 Calcagno, *La puerta a la mar: Il Marchesato del Finale nel sistema imperiale spagnolo (1571-1713)*,

156 The Nine Years or the Great Alliance War (1688-99), the War of the Spanish Succession (1700-1713), the War of the Quadruple Alliance (1717-20), the War of Polish Succession (1733-35), the reconquest of Naples and Sicily by Charles of Bourbon (1734-35) and the War of the Austrian Succession (1740-48). See Virgilio Ilari, Giancarlo Boeri, Ciro Paoletti, *Tra i Borbone e gli Asburgo. Le armate terrestri e navali italiane nelle guerre del primo Settecento (1701-1732)*; Idd., *La Corona di Lombardia. Guerre ed eserciti nell'Italia del medio Settecento (1733-1768)*, Ancona: Nuove Ricerche, 1996, 1997.

157 Davide Maffi, *La cittadella in armi. Esercito, società e finanza nella Lombardia di Carlo II 1660-1700: Esercito, società e finanza nella Lombardia di Carlo II 1660-1700*, Milan: FrancoAngeli, 2010. Davide Maffi, Paola Bianchi, Enrico Stumpo (Eds.), *Italiani al servizio straniero in età moderna*, Milan: FrancoAngeli, 2008.

Atlantic, America and India, and largely sustained by Great Britain, through her financial subsidies to allied Powers and thanks to her Seapower in the Mediterranean, since the conquest of Gibraltar (1704) and Menorca (1708) and the second destruction of a Spanish Armada at Capo Passero (1718)<sup>158</sup>. Indeed, the Austro-French wars were also part of «the Second Hundred Years War», as in 1883 H. R. Seeley defined the Anglo-French rivalry from Louis XIV to Napoleon<sup>159</sup>.

Straddling the Western Alps, the Duchy of Savoy (since 1720 Kingdom of Sardinia) was the main Italian battlefield in 1690-96<sup>160</sup>, 1703-11 and 1743-48, becoming the first military power of the Peninsula and the first ally of the Austro-British coalition, albeit balanced by temporary repositionings alongside France (1696-1703 and 1733-35). In 1692, 1707 and 1746-47 the Austro-Savoyards made diversionary expeditions in southern France, and among many major battles and sieges fought in Piedmont, the allies achieved two decisive victories: the relief of Turin by Prince Eugene (1706)<sup>161</sup> and the last French offensive broken at the battle of Assietta (1747)<sup>162</sup>. Traditional antagonist of Turin, Genoa always remained pro-French, rising in 1746 against the Austro-Sardinian occupation<sup>163</sup>. Continental campaigns also invested Austrian Lombardy in 1701-07, 1733-35 and 1740-43, as well as the Duchies of Parma and Modena and the Papal Legations.

Separate Peninsular campaigns occurred in 1707-08 (the Austrian conquest of Naples, Sicily and Sardinia), 1717-20 (the Spanish failed attempt to retake Sardinia and Sicily<sup>164</sup>), 1733-35 (Charles of Bourbon's conquest of Naples and

158 Alfred Thayer Mahan, *The Influence of Sea Power upon History, 1660–1783*, Boston: Little, Brown and Co., 1890. Jeremy Black, *Britain As A Military Power 1688–1815*, London: Routledge, 1999, pp. 97–100.

159 Arthur Howland Buffinton, *The Second Hundred Years' War, 1689–1815*, New York: Henry Holt and Coy, 1929. François Crouzet, «The Second Hundred Years War. Some Reflections», *French History*, Vol. 10, Issue 4, Dec. 1996, pp. 432-50.

160 Carla Amoretti, *La battaglia della Marsaglia – una diversa lettura della storia*, Turin: 2022.

161 Giovanni Cerino Badone (cur.), 1706. *Le Aquile e i Gigli. Una storia mai scritta*, Turin: Omega, 2007.

162 Giovanni Cerino Badone, Eugenio Garoglio, *La battaglia dell'Assietta e la campagna militare alpina del 1747*, Edizioni del Capricorno, 2021. Id., *You Have to Die in Piedmont! The Battle of Assietta, 19 July 1747. The War of the Austrian Succession in the Alps*, Helion, Limited, 2022.

163 Giovanni Assereto, 1746. *La rivolta antiaustriaca e Balilla*, Roma: Laterza, 2010.

164 Elina Gugliuzzo, Giuseppe Restifo (Eds.), *Una battaglia europea. Francavilla di Sicilia, 20 giugno 1719*, Rome: Aracne, 2020. Christopher Storrs, *The Spanish Resurgence 1713-1748*, New Haven and London: Yale U. P. 2016, pp. 182 ff.

Sicily) and 1740-44 (the Spanish attempt to retake the Lombard Duchies and the Austrian attempt to retake Naples)<sup>165</sup>. Although Spain still used its historic bridgehead in the State of the Presidi in 1740, the passage of the opposing armies avoided Tuscany and rather followed the buffer zone in the shape of a “Z” constituted by the Papal States, saving only the city of Rome<sup>166</sup>. The Lorraine succession (1737) did not change the long neutrality of the Grand Duchy<sup>167</sup>, and the failed project of establishing a colony on the Coromandel coast (S-E India) showed that the Lorraine sovereignty over Livorno was purely nominal<sup>168</sup>.

Both the Duchies of Parma and Modena were battlegrounds, albeit in different times and ways. In 1740 the Este defected to Spain, while the Farnese kept a lasting neutrality and so did the Papal State, despite its armed confrontation with Austria over the rights on Comacchio (1708)<sup>169</sup>. Venice also remained neutral and unscathed, and in 1715-1718 it sustained one last war with Turkey, keeping the Ionian Islands but losing Morea conquered by Francesco Morosini in 1685/87<sup>170</sup>.

165 Virgilio Ilari, *Velletri 1744. La mancata riconquista austriaca delle Due Sicilie*, Rome: Nadir Media, 2019.

166 In 1742, while Austro-Sardinians and Spaniards roamed along the Via Emilia, Cardinal Alberoni wrote to castellan of Forte Urbano (a small papal fortress towards Modena), that “he served a prince who does not enjoy any esteem among the Powers, considering him weak, and, consequently, in a state of receiving whatever law they want to give him. He must therefore imagine himself, not of being governor of a place, but guardian of an inn, whose duty is only to keep the table prepared and serve the first which occupies the place”. (*Storia del Cardinale Giulio Alberoni* scritta da Stefano Bersani, Piacenza, Solari, 1861, p. 447).

167 Bruno Mugnai, *Soldati e milizie toscane del Settecento: 1737-1799*, USSME, 2011.

168 Andrea Tanganelli, «Il Battaglione di Marina Toscano e la spedizione nel Coromandel», *Nuova Antologia Militare*, No. 3, 2020, pp. 261-302.

169 Luca Giangolini, *L'esercito del papa. Istituzioni militari, burocrazia curiale e nobiltà nello stato della Chiesa (1692-1740)*, Rome: Aracne, 2020. Giancarlo Boeri, Maurizio Grattarola e Paolo Giacomone Piana, *L'esercito pontificio nel 1708-09*, Soldiershop Publishing, 2020.

170 Gregory Hanlon, Alberto Prelli, *L'ultima vittoria della Serenissima - 1716 l'assedio di Corfù*, ill. by Bruno Mugnai, Bassano del Grappa: Itinera Progetti, 2016. Giuseppe Restifo, «Le retrovie italiane della guerra di Corfù», in Gerassimos Pagratis (ed.), *Guerra, Stato e società nel Mar Ionio*, Athens: Erodoto, 2018, pp. 171-184.



*A long peace in a contended Mediterranean (1748-1792)*

Although destined to be “either the Seat of Empire, or the Theatre of War”<sup>171</sup>, Italy was spared from the Seven Years’ War<sup>172</sup>. It happened, however, not due to the diplomacy of 1748-52<sup>173</sup>, but to the overthrow of the European alliances and the English defeat at Menorca, which set aside the Mediterranean Alliance with Turin, Naples and Venice promoted in 1755 by William Pitt. Italy thus enjoyed, between 1748 and 1792, four decades of peace, which undoubtedly changed its priorities and degraded its military experience and capabilities, according to the famous *dictum* of the Marquis Tanucci “big princes armies and cannons, small princes villas and hunting lodges” (“principoni armate e cannoni, principini ville e casini”)<sup>174</sup>.

Although the Franco-Austrian condominium remained stable and the only direct military commitment of the Italian states was the countering of the North African corsairs<sup>175</sup>, the Third Bourbon Family Compact (1761) and the Mediterranean projection of Russia (1768) shifted the strategic axis of the Peninsula from the Continent to the Mediterranean. France took advantage of this situation by occupying Corsica (1769), which had long been a rebel against Genoa<sup>176</sup>. Piedmont retaliated by taking the strategic Maddalena Archipelago (Nelson’s future base before Trafalgar), but its marriage policy soon brought it closer to Versailles.

Emerging in 1774 with the Russian victory over Turkey, the Eastern Question was the main geopolitical determinant of the Peninsula until 1792<sup>177</sup>. In fact, the two Italian members of the Family Compact did not participate in the Anglo-Bourbon naval war and the siege of Gibraltar, while neither Vienna nor Venice or Naples joined the League of armed neutrality promoted by Catherine

171 John Campbell, *The Present State of Europe*, Dublin, Faulkener, 1750, p. 371.

172 See though Andrea Tanganelli, *I reggimenti austro-italiani nella guerra dei Sette anni (1755-1763)*, Rome: Nadir Media, 2022.

173 Peace of Aachen, Convention of non-intervention and mutual defense, Aranjuez Treaty on the Tranquility of Italy.

174 Virgilio Ilari, Ciro Paoletti, Piero Crociani, *Bella Italia Militar. Eserciti e Marine nell’Italia prenapoleonica (1748-1792)*, Rome: USSME, 2000.

175 Salvatore Bono, *Guerre corsare nel Mediterraneo: una storia di incursioni, arrembaggi, razzie*, Bologna: Il Mulino, 2018.

176 Emiliano Beri, *Genova e il suo Regno di Corsica 1729-1768*, Novi Ligure: Città del Silenzio, 2011.

177 Salvatore Bottari, *Alle origini della questione d’Oriente: il conflitto russo-turco del 1768-1774 e la diplomazia degli Stati italiani*, Rome: Società Editrice Dante Alighieri, 2018.

II against Britain. Even in 1783 Turin hypothesized to contribute with 25,000 men to a potential English expedition to retake Crimea annexed by Russia<sup>178</sup>. Nevertheless, English influence in Italy was reduced in favor of France, which promoted the commercial penetration of the Two Sicilies in the Black Sea, culminating in 1794 with the founding of Odessa<sup>179</sup>.

Although in 1763 the Reverend Madden envisaged a unification of Italy under a “king of Venice”<sup>180</sup>, in 1779 the instructions of the French ambassador to Venice included a possible Austro-Russian partition of the *Serenissima*<sup>181</sup>. In fact, despite an ancient military collaboration with Russia<sup>182</sup> and the sumptuous welcome of the future emperor Paul I, Venice never managed to obtain the coveted commercial access to the Black Sea<sup>183</sup>. Under the impulse of Angelo Emo, in 1785-86 Venice tried to solve the dispute with Tunis by force, but the sixth Russo-Turkish war made necessary to recall the Venetian squadron to exercise some vigilance in the Ionian and Aegean Sea, and in 1792 the suspicious death of Emo sadly ended the history of the Venetian Seapower.

### *Italian military balance during the Eighteenth century*

Contrary to the thesis of Italian military decadence, the number of Italian military writers was greater in the Eighteenth century than in any previous centuries, although it was concentrated mainly in Piedmont, while it decreased in the other states, with the exception of the Two Sicilies. The greatest increase concerns historiography, biography, war reporting, ancient military art and rhet-

178 Michelangelo Castelli, *La politique sarde et la Question d'Orient en 1783-84. Documents diplomatiques extraits des Archives du royaume*, Turin, 1855. M. S. Anderson, «The Great Powers and the Russian Annexation of the Crimea, 1783-4», *The Slavonic and East European Review*, Vol. 37, No. 88 (Dec., 1958), pp. 17-41.

179 Anna Makolkin, *A History of Odessa, the Last Italian Black Sea Colony*, Lewiston: E. Mellen press, c2004.

180 Samuel Madden, *The Reign of George VI, 1900-1925*, A Forecast Written in the Year 1763; Republished, With Preface and Notes by sir Charles Oman, London: Rivington, 1899, pp. 40, 64.

181 “On se tromperait si sur la foi du passé on voulait croire cette République indestructible”. *Recueil des instructions aux Ambassadeurs et Ministres de France*, t. XXVI: Paris, 1958, pp. 276-77.

182 Mario Corti, *Italiani d'arme in Russia. Artigiani, ingegneri, ufficiali in un esercito straniero (1400-1800)*, Roma: Carocci, 2016.

183 Virgilio Ilari e Federico Moro, «‘I Geniali della Moscovia’. La collisione anglo-russa e la chiusura della Porta d'Oriente», in Ilari (Ed.), *Italy on the Rimland*, o. c., t. I Suez, pp. 25-44.

oric, but it is also conspicuous for artillery, fortifications, geography and cartography, while politics, *scienza cavalleresca*, fencing, medicine and hippology appeared in decline. No variation, instead, in the book production of “military art and discipline” and of navigation and naval military art. Among the most famous authors, we find Luigi Ferdinando Marsigli, Francesco Algarotti and Gianfrancesco Galeani Napione, but the Piedmontese Argentero, Bettola, Bozzolino, Nicolis, Papacino, Pinto, Quaglia, Rana, Saluzzo are also notable; as well as Scarabelli from Modena, Formaleoni from Piacenza, Venetians Gasperoni, Lorgna, Maffei, Nani, Salimbeni, Stratico; Romans Espece and Frangipani; Tuscans Becattini, Buonamici and Malaspina; the Southerners Delfico, Filangieri, Fraveth, Mazzitelli, O’Farris, Pignatelli Strongoli, Sanchez de Luna, Scalfati and naturalized foreigners as d’Embser, de Silva, Schulemburg, Steinau and Widman<sup>184</sup>.

In 1700 the fifteen Italian states had a total of 65,000 soldiers, 300 castles, 54 galleys and 21 ships-of-the-line and frigates, plus a potential of 8 arsenals (Turin, Genoa, Pavia, Venice, Livorno, Rome, Naples and Malta), 20,000 sailors and 300,000 militiamen. A third of these forces belonged to the four Spanish dominions, and the same to Venice. On paper, the Serenissima was the first military and naval power, with 18,000 soldiers, 100 castles, 16 galleys and 29 sailing ships, and a potential (“tested” by the war of Morea) of 15,000 mercenaries, 10,000 sailors and 60,000 militiamen (*cernide*). However, half of these forces garrisoned the precarious dominions of Dalmatia, Levante and Morea, while organization and armament were extremely obsolete. With 22,000 soldiers and 6,000 sailors, the garrison of the Spanish dominions held the second rank, but only a quarter of the 75,000 militiamen had actual military value.

Milan and Turin entered the war with 15,000 men each, Parma with 3,600 and the Pope with 7,500. In 1704, thanks to Protestant mercenaries in English pay and a picked militia, Piedmont deployed 30,000 men, and for the rest of the war it maintained an average of 20,000, due to a clever financial policy<sup>185</sup>. The Pope reached 20,000 in 1708 against Austria. In 1715–18, against Turkey, Venice reached 80,000 (24,000 national and as many foreign soldiers, 10,000 Balkan auxiliaries and 20,000 sailors, half of them nationals). During the 1720s, the Italian states’ forces grew to 120,000 (including 35,000 Venetians, 24,000

184 Ilari, Scrittori, pp. 63–91 (“Quadri sinottici per secolo e per materia”).

185 Luigi Einaudi, *Le entrate pubbliche dello Stato sabaudo nei bilanci e nei conti dei Tesorieri durante la guerra di successione Spagnola*, Torino: Paravia, 1907. Christopher Storrs, *War, Diplomacy and the Rise of Savoy, 1690–1720*, Cambridge: Cambridge U. P., 2000.

Sardinians, 6,000 Genoese and 5,000 Papal), plus 40,000 Austrians.<sup>186</sup>

Thanks to the Spanish subsidy, in 1740 Modena briefly mobilized 6,000 Swiss, French and militias. With a peacetime force of 30,000 (including 7,000 provincials and 9,000 foreigners), in 1742 the Sardinian Army entered the war with 43,000, and in 1747 foreigners had risen to 20,000 and provincials had fallen to 5,000, although 12,000 had been drafted<sup>187</sup>. In 1734 the Bourbon conquest of the Two Sicilies added a third military and naval power to the Peninsula. The forces, initially made up of Spanish, Walloon and Swiss regiments “lent” by Philip V to his son Charles, then became almost entirely national, in 1764 being 35,000 men and 18 naval units strong.

The strategic importance of Italy at the end of the Seven Years’ War is well documented by the secret reports of the British ambassadors in Naples, Venice and Florence<sup>188</sup>. In 1765 the eleven ancient Italian states, including Malta, the overseas dominions of Venice and the Austrian Lombardy maintained 120,000 soldiers, for over a third foreigners: a figure equal to a third of the priests, friars and nuns and 8% of the population (13.5 million), at a cost of over 2 million pounds, equal to 37% of ordinary state revenues, with a maximum of 72% in the Two Sicilies and a minimum of 17% in the Papal States. The only military research and officer training centers were in Turin and Naples, reformed in 1769 when the military colleges of Verona and Florence were added. There were about twenty arsenals, foundries, powder and arms factories, but only those of Turin and Naples were relatively modern, although they could not ensure the self-sufficiency of their respective artillery. The Arsenal of Venice, once the only one in the Mediterranean to be able to rival that of Constantinople, had long since ceded its rank to Toulon.

The other naval arsenals, of modest capacity, were in Genoa, Malta, Civitavecchia and Naples, which was then joined by Castellammare di Stabia. Naval bases were slightly more numerous but only Malta and Livorno, traditional fa-

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186 Ilari, Boeri, Paoletti, *Tra i Borbone*, pp. 21-24. For details see pp. 63-261.

187 Ilari, Boeri, Paoletti, *La Corona di Lombardia*, pp. 86-97.

188 Gigliola Pagano de Divitiis e Vincenzo Giura, *L’Italia del secondo Settecento nelle relazioni segrete di William Hamilton, Horace Mann e John Murray*, Napoli: ESI, 1997. The experience of land control from the sea made by the British in Canada and India during the Seven Years War would have been fundamental in the future Peninsular wars conducted in Italy (1793-1814) and in Portugal and Spain (1808-1813). See Matthew J. Cahill, *An Unassailable Advantage: The British Use of Principles of Joint Operations from 1758-1762*, School of Advanced Military Studies, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas, 2017.





Unknown Author. Perspective of the City of Corfu. Source: Wikimedia Commons

cilities of the British fleet (and in 1768 of the *Baltijskij Flot*), retained a certain strategic role. The defense of the Tyrrhenian and Adriatic coasts was centered on a thousand ancient watchtowers. But with a total of 38 major units (3 ships-of-the-line, 15 frigates and 20 galleys) the six Italian navies (Venetian, Neapolitan, Papal, Sardinian, Genoese and Austro-Tuscan) could barely patrol the coastal routes and counter, not always effectively, the North African corsairs. Out of 20 or so Italian fortified places, only the Piedmontese ones were linked to form a modern defensive system.<sup>189</sup>

Since the 1770s, the smaller Italian states reduced their forces to the bare minimum necessary for garrison duties, while the three main Italian powers attempted to rationalize military spending and to nationalize, modernize and strengthen their armies and navies. Extensive reforms concerned administration, discipline, recruitment, education and training. Horses, artillery and ships were produced or supplied abroad, including through industrial espionage, like the secret of the copper sheathing Venice proved able to steal from British ship-

<sup>189</sup> Ilari, Crociani, Paoletti, *Bell'Italia*, pp. 19-23.

yards<sup>190</sup>. However, the competence and dedication of the reformers were hampered by corporate resistance and little political support, and the results were overall modest.

Piedmont and Venice failed to compensate for their respective weaknesses, the latter on the land and the former at sea. But the *Armata Sarda* and the *Armata Grossa* (sailing ships) of Venice retained sufficient capacities and consequently a relative additional strategic value, which the Savoy foreign policy, traditionally aimed at achieving a balance, was able to exploit better than the Venetian one, anchored to an increasingly less sustainable and advantageous neutrality. Considering the disastrous starting situation and the major obstacles, the result of the Two Sicilies was not negligible: the *Armata di Terra* remained, it is true, an internal security and static defense force, but in association with the *Armata di Mare* demonstrated an albeit modest capacity for external projection that could be spent in the context of the first Coalition against the French Republic.

When, in 1792, Italy returned to be directly involved in the global geopolitical clash, the weight of the Peninsular defense fell almost entirely on the Sardinian Army and on the British Mediterranean Fleet, repeating the strategic scenario of 1703-08 and 1743-47. During the 42 months of the Piedmontese heroic resistance in the Alps<sup>191</sup>, the other Italian powers made some intermittent attempts to complete or initiate military reforms that were too long postponed, but the absolute lack of coordination and the hope of being able to escape individually to the common fate made them fall prey in random order to the dazzling and precarious Napoleonic conquest (1796-99)<sup>192</sup>.

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190 Paolo Preto, *I servizi segreti di Venezia*, Milano: Il Saggiatore, 1994, p. 386.

191 Virgilio Ilari, Piero Crociani, Ciro Paoletti, *La guerra delle Alpi (1792-1796)*, Rome: USSME, 2001.

192 Virgilio Ilari, Piero Crociani, Ciro Paoletti, *Storia militare dell'Italia giacobina (1796-1801)*, Rome: USSME, 2001, 2 vols.



Captain “Old Crazy” Lana, Grenadier Coy, Regiment of the Guards of Our Lord, Rome, 1744. Pierleone Ghezzi (1674-1755), Caricature, Cod. Ott. Lat. 3119 41r, Vatican apostolic library (DVL Digivatlib).





Gianmaria Maffioletti, *Painted Inventory of the Arsenal of Venice on 12 May 1797*,  
right before the French sack (particular)



## *Quo Vadis?* The Military Revolution in Eastern Europe.

First circle, from the middle of the 15<sup>th</sup>  
to the beginning of the 17<sup>th</sup> centuries.

By VLADIMIR SHIROGOROV

ABSTRACT. The concept of the military revolution is a go-to research paradigm for studies on the Early Modern Period. However, it lacks an accepted definition or established theoretical framework. These omissions allow scholars to choose from a wide range of interpretations, from presenting the military revolution as a reportage from battlefields, or a sociological “ideal type” to complete negation. The current essay is committed to disentangle the web of the military revolution’s history and historiography. It tracks warfare determinants during the Early Modern transformation of East-European nations and compares the socio-political impact of their respective military changes. The essay also proposes a periodization of the military revolution’s epoch in conjunction to the concept of the fiscal-military state.

KEYWORDS: MILITARY REVOLUTION, FISCAL-MILITARY STATE, NATION, EASTERN EUROPE, POLAND, RUSSIA, UKRAINE, WAR.

Studies on the military revolution in Eastern Europe started in the 1990s when the demise of the communists’ ideological dictate with its harsh Marxism allowed East-European historians to use the concept. It was also the time when Western historians and sociologists started to discuss the concept more globally. The military revolution, which had been confined within West-European history as a hypothetical description of one of its epochs, the Early Modern Period, became the research method. It was reasonable that it was brought on board to study the same period of Western Europe’s close neighbours, the Ottoman Empire and Eastern Europe. While in Ottoman studies the concept of the military revolution has had a spectacular development, in the studies of Eastern Europe it has been frustrated. The reason is not just the difference between numerous nations of Eastern Europe and the difficulty to generalize and compare the diverse evidence of its past. The great variety of contemporary nations’ academic schools, barriers of languages and ideologies are hindering the making of the

models similar to the widely accepted abstractions that the concept of the military revolution proposes for Western Europe and the Ottoman Empire, and that are its main research instruments. The studies on military revolution in Eastern Europe fell to national and scholarly groups that often produce non-corresponding narratives. Their divergence is fuelled by the disorganization of the military revolution concept itself.

*Jan Glete's confidential.*

Three principal issues of studies on the military revolution are still being clarified, the subject of the study, its chronological period, and its objectives. Most scholars focus their attention on the proliferation of firearms or more widely on the change in weaponry, tactics, organization, and mobilization of armies that coincided chronologically with the mastering of firearms for use in warfighting.<sup>1</sup> It is a fertile and extensive field, however, as a connoisseur of East-European history, Robert I. Frost notes that the founder of the concept Michael Roberts' "claim for a [military] revolution lay not in the importance of particular tactical changes [...] but in their impact on governments and states in seventeenth-century Europe." Roberts proposed "not [...] a military revolution at all, but a political revolution occasioned by military changes." Roberts' concept calls for research on the "military developments," as Frost cites Roberts, that "were the agents [...] of constitutional and social change."<sup>2</sup> Frost's radical view does not devalue the studies of the military novelties of the Early Modern Period but claims them to be irrelevant to the military revolution concept if they do not establish the causation of military affairs for society and its political regime. Frost is *David* before *Goliath*, - it is not a job of the most studies on the military revolution.

The chronology is another glaring lacuna of the military revolution debates. The concept offered by Michael Roberts was misinterpreted as a call to look for military changes; their authority over society and political regimes was assumed and regarded as requiring neither confirmation nor specification. The historiographic community rushed to warfare studies and the swelling Early Modern Period turned out to be overpacked with radical military innovations from the 13th to the 18th centuries. Geoffrey Parker, the outstanding promoter of Roberts' concept, although unintended, opened this historiographical abyss with his famous book *The Military Revolution. Military Innovation and the Rise*

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1 See presentation of the relevant bibliography, Fissel, "Military Revolutions".

2 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 20

of the West, 1500—1800, first published in 1988.<sup>3</sup> Parker's attention to the fighting details and the significance that he assigned to the bastion fortress of the 15th century and the size of the armies in the 18th century spread the military revolution over all of the Early Modern Period with swells back to the Middle Ages and forward to Modernity. One of the most influential ideologists of the look in the rear-view mirror, Clifford Rogers, a Hundred Years' War scholar, and Andrew Krepinevich, a war futurologist and US Vietnam War researcher, when referring to each other proposed a toolbox of ten "revolutions in military affairs (RMAs)" (Rogers) or "military revolutions" (Krepinevich).<sup>4</sup> Rogers' and Krepinevich's respective military histories look like a wave of Military Revolutions or RMAs from the antediluvian past to the fantasy future. At least four of them fall squarely within the swollen Early Modern Period, the Infantry Revolution (the 14th century), the Artillery Revolution (the 15th century), the Fortress Revolution (the 16th century), and the Military Revolution (the 17th century). Rogers explains that while the three initial revolutions are only RMAs, the last one is the true military revolution because it caused the emergence of the "centrally governed nation-states equipped with a large standing army" and "the beginnings of the modern European map."<sup>5</sup> Krepinevich does not go this far, as his military revolution remains a fighting style, "the Swedish military system."<sup>6</sup> Rogers' important remark was not widely noted and Krepinevich's chronology still dominates the studies. Roberts' root chronology of the military revolution as the extraordinary determinant of socio-political development across a specific short period of history, the first decades of the 17th century,<sup>7</sup> ceases to exist.

The third issue regarding the studies on the military revolution concerns their objectives. Finding the sharp military changes that influenced warfighting is one thing and establishing the military phenomena that determined the transformation of the society is another completely. Parker's abovementioned seminal book highlights a spectacular variety of military innovations in weaponry, tactics and organization of force over the globe with a short paragraph on the *Concept* in his *Afterword*.<sup>8</sup> Parker simply concurs that "a consequential conceptual difficulty lies in the link between armies, navies, on the one hand, and "state

3 Parker, *The Military Revolution*.

4 Krepinevich, "Cavalry to Computer," Rogers, "'Military Revolutions' and 'Revolutions in Military Affairs'," 22

5 Rogers, "'Military Revolutions' and 'Revolutions in Military Affairs'," 22

6 Krepinevich, "Cavalry to Computer," 35

7 Roberts, "The Military Revolution," 13, 18–20, 22–23, 26, 29

8 Parker, *The Military Revolution*, 6.1

formation” on the other”<sup>9</sup> and lets the matter remain loose. His example invites historians to collect the “military revolutions” packed with the military changes of unfound bond to the socio-political transformation. According to Robert Frost, the discussion on the military revolution is predominantly engaged with matters of warfare while “the precise relationship between military, administrative and political change” remains “rather vague.”<sup>10</sup> After historians mostly abstained from explaining the socio-political transformation by military changes, the sociologists advanced. Charles Tilly, a scholar of social action, proposed his concept in the title *Coercion, Capital and European States*.<sup>11</sup> His coercion includes military matters. Tilly, although headlining one of his paragraphs *War drives states formation and transformation*, avoids establishing the exemplary causation between the particular military changes and definite socio-political structures.<sup>12</sup> It is the reason why his period of the transformation of states appears stretching similar to the military revolutions of Krepinevich.

Jan Glete, a strong on-case historian, adopted a concept of “the fiscal-military state” and applied it to Spain, the Dutch Republic and Sweden, the latter being his field of expertise. For Glete, the “major military transformation” of the 16<sup>th</sup> and 17<sup>th</sup> centuries was “increasingly based on centralized structures” that were “a decisive step in the formation of the modern state.” “The changes were simultaneous and their interconnections are the background to the term ‘fiscal-military state.’”<sup>13</sup> Glete sees the military transformation as the “precondition or driving force for state formation, but it is equally possible that it was new centralized states that achieved the major parts of the military transformation.” “Alternatively, both types of change may have been the result of new form of interaction and aggregation of political interests (new institutions) within the states.”<sup>14</sup> Glete establishes the exact causation between warfare and fiscal-military consolidation. He first, presents the story of the premature fiscal-military state in Spain, where the “elite groups [...] shared or dominated in the control of the state.”<sup>15</sup> Second, he describes the Dutch expansionist fiscal-military state with the effective “interests aggregation.”<sup>16</sup> And third, he shows the Swedish

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9 Parker, *The Military Revolution*, 158

10 Frost, “The Polish-Lithuanian Commonwealth and the ‘Military Revolution’,” 21

11 Tilly, *Coercion, Capital and European States*.

12 Tilly, *Coercion, Capital and European States*, 20–28

13 Glete, *War and the State in Early Modern Europe*, 42

14 Glete, *War and the State in Early Modern Europe*, 42

15 Glete, *War and the State in Early Modern Europe*, 69

16 Glete, *War and the State in Early Modern Europe*, 142, 145





Fig. 1. The ruthless and adamant innovators. The pioneer of East-European infantry warfare and the model of absolutist monarch Albrecht von Brandenburg stays far right in the row of the Teutonic High Masters' statues, designed by Rudolf Siemering in 1872, in the court of the castle Marienburg (Malbork), Prussia (Northern Poland). Photo Der-Spreckieker, CC Wikimedia Commons.

absolutist fiscal-military state with “strong central power.”<sup>17</sup> All of Glete’s national models of the fiscal-military state represent his vision of the political regime’s transformation, sharp, mighty and concise in time, that was driven by the equally revolutionary military changes in weaponry, tactic and organization of armies. These military changes were concentrated in standing professional forces, firearms and infantry, pike-and-shot tactic and salvo fire, artillery fleet and struggle over sea domination. They were associated with certain social groups and political factions which ran the fiscal-military transformation of the states. Glete’s creation of the fiscal-military state is not evolutionary accruing of the fiscal-military structures but revolutionary act of their forceful implementation. Spain, Dutch Republic and Sweden, Glete’s three creatures of the military revolution are the extreme edges of the triangle within which all other particular cases fit. Chester S.L. Dunning, a scholar of Muscovite history of the 16<sup>th</sup> – 17<sup>th</sup> centuries, notes that “the term fiscal-military state quickly... caught fire – due primarily to the weakness of “absolutism” as an explanatory framework.”<sup>18</sup>

17 Glete, *War and the State in Early Modern Europe*, 175

18 Dunning, C., “Were Muscovy and Castile the First Fiscal-Military States?” 192

However, as Brian L. Davies, an expert of the East-European Early Modern warfare, remarks, “the advantage of “fiscal-military state” is its own vagueness” and it “is at the same its disadvantage.”<sup>19</sup> Similar to the military revolution, scholars started to search for and find the species of the fiscal-military state over all of the Early Modern Time. Jan Glete’s rigorous “aggregation” of the revolutionary military, its adherent socio-political groups and state transformation is mostly lost. In establishing the distinctive staples between the military changes and socio-political transformation, Jan Glete remains almost alone like *the voice of one that crieth*.

### *Jeremy Black’s cycle.*

In his frequently cited book *A Military Revolution? Military Change and European Society, 1550 – 1800*,<sup>20</sup> Jeremy Black proposed an idea that strangely remained almost unnoted by anyone besides Jan Glete. The reason for this obscurity is that Black’s idea consists of elements that are rather scattered over its pages. Black did not continue his research on this idea, although it might become central to our understanding of the military revolution as the complex process of the tightly bound technical and tactical military changes and socio-political transformation in the Early Modern Period. It is the idea of the integral cycle of the three stages of the military revolution, a clutch of three circles. In parallel to Black, Glete also proposes three phases of “the rise of the European fiscal-military states [...] in terms of the ability of the states to enforce domestic peace and to mobilize resources for war...”<sup>21</sup> Glete’s periodization of the military revolution is special for each case: it grows from the inside out. Black’s chronology is different, it is a bird’s eye view of the national cases and it imposes the generalization on them.

The first of Black’s circles is the introduction of combat worthy firearms, and tactics of their employment in “the late-fifteenth and early-sixteenth centuries.”<sup>22</sup> One of the substantial features of this period was the wide diversity of the firearms’ employment patterns<sup>23</sup> and socio-political answers to the mutation of armies. This diversity existed not only between the armies of the different states but also inside the states, and Black accentuates it. Glete defines this period as

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19 Davies, “Introduction,” 13

20 Black, *A Military Revolution?*

21 Glete, *War and the State in Early Modern Europe*, 16

22 Black, *A Military Revolution?* 4–6, 94

23 Black, *A Military Revolution?* 9

the phase of “co-operation within the traditional states, 1480 – 1560.” It was the time when “increased domestic peace was achieved by traditional [Late Medieval?] political means” both in the “national and territorial” states of Western Europe and Ottoman, Muscovite, Mughal “conglomerates [...] further east.”<sup>24</sup> It was also “the formative period of the European tax or fiscal state.” Due partly to the adoption of firearms “the increased role of efficient field armies and permanent navies placed rulers in a more central and influential position.”<sup>25</sup>

The second of the transformational circles is one that Black initially denies. “Possibly it is best to put aside the provocative, but ultimately unconvincing, thesis of Roberts and, instead, to suggest that [military] innovation and development were concentrated in the late fifteenth and then again in the late seventeenth centuries.”<sup>26</sup> Black locates the proper military revolution in “the second half of the period 1560 – 1760,” when “the decisive development [...] in the case of most military forces [...] were primarily found.”<sup>27</sup> It was the period when the sharp changes in warfare occurred: rapid shifts in weaponry and tactics, the coming of decisive battles and the greater size and strength of the armies.<sup>28</sup> Black’s conclusion is as convincing as the eyewitness reportage. However, he suddenly turns back to the ostracized period of 1560 to 1660 and elevates it on the pinnacle of the highest importance but in a completely different manner from Roberts.

Black depicts an impressive picture as most of the European states submerged into the bloody chaos of civil wars since around the middle of the 16<sup>th</sup> century.<sup>29</sup> The larger armies, created by the new fighting technique in the middle of the 15<sup>th</sup> to the middle of the 16<sup>th</sup> centuries required larger resources that were extracted by the oppressive state institutions. The social resistance to them caused political crises from the mid-16th to the mid-17th centuries. These were solved by the militarization of society that “integrated society and state.” “The revival of consensus” between the rulers and elites and post-Reformation “ideological cohesion” “brought new political stability to many states.”<sup>30</sup> It is the socio-political results of the period of 1560 to 1660 that enable Black “to reverse the

24 Glete, *War and the State in Early Modern Europe*, 16–17

25 Glete, *War and the State in Early Modern Europe*, 22

26 Black, *A Military Revolution?* 94

27 Black, *A Military Revolution?* 20

28 Black, *A Military Revolution?* 20, 27, 33, 82

29 Black, *A Military Revolution?* 67–71

30 Black, *A Military Revolution?* 67

relationship” [proposed by Roberts and Parker] between “the absolutist states” and “new model armies.”<sup>31</sup> The former were not the products of the latter. “The origins of late-seventeenth-century absolutism can be found both in [...] reaction to the turmoil of the sixteenth century, [...] and in a series of political crises in the first half of the seventeenth.”<sup>32</sup> The socio-political stability of absolutism “had important military consequences” because “it was the more stable domestic political circumstances of most states[...] that made these [military] changes possible.”<sup>33</sup> “Thus, the modern art of war, with its large professional armies, and concentrated yet mobile firepower, was created at the same time as – indeed made possible and necessary – the creation of the modern state.”<sup>34</sup>

Glete denotes the period of 1560 to 1660 as “crisis and change: the rise of the fiscal-military state model [...]. [It] saw domestic political crises sweep over most of Europe, including Eastern Europe and the Ottoman Empire.”<sup>35</sup> Glete considers that the military and administrative know-how of the fiscal-military state were invented by 1600, but the socio-political consensus necessary for their implementation was unattainable as the states were “in internal conflict” and with “civil war” around them.<sup>36</sup> Glete denies that the military innovations of the gunpowder revolution caused the century of civil war in Europe: the first unsuccessful attempts to implement the model of the fiscal-military state occasioned it.<sup>37</sup> The period of 1560 to 1660 was a “crisis of transformation” “from the state as the arena for the aggregation of the political interest into a centre of huge and complex fiscal-military organization.”<sup>38</sup> It was “a decisive phase in European state formation.”<sup>39</sup> Glete’s third phase of the development of the European fiscal-military state lasted from the mid-17<sup>th</sup> century to the first decades of the 18<sup>th</sup> century. It was “the period of maturity” of the fiscal-military state that “developed with striking rapidity.”<sup>40</sup> Therein is the important difference between Glete’s views and Black’s. Black considers that the third circle which came in c. 1660 was being truly revolutionary because it was not “the culmi-

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31 Black, *A Military Revolution?* 67

32 Black, *A Military Revolution?* 91

33 Black, *A Military Revolution?* 67

34 Black, *European Warfare*, 33

35 Glete, *War and the State in Early Modern Europe*, 22

36 Glete, *War and the State in Early Modern Europe*, 24

37 Glete, *War and the State in Early Modern Europe*, 24

38 Glete, *War and the State in Early Modern Europe*, 27

39 Glete, *War and the State in Early Modern Europe*, 24

40 Glete, *War and the State in Early Modern Europe*, 28



nation of a supposed earlier revolution” but “a new development” of “scant continuity” with the “desperate expedients” of the past.<sup>41</sup> In everything else, the descriptions of this period by Black and Glete coincide.

The veiled dialogue between Black and Glete presents the military revolution as the cycle of three circles. The first stage, (counting in hundred years) was 1460 to 1560, the period of the chaotic military changes associated with the introduction of firearms and organizational military reform. The second stage, 1560 to 1660, was the period of civil war. The third stage, 1660 to 1760, was the socio-political rally which gave life to the radical new warfare of the Early Modern Period. The first and the third stages are relatively well-discussed, however mostly without addressing the close ties between the military changes and political transformation. Little is known about the second, intermediate stage. It might be significant that Roberts’ period of military changes takes its seat accurately in it. Were Roberts’ tactically decisive warfighting episodes of the Netherlandish Eighty Years’ War and German Thirty Years’ War the species of civil war to which both of these conflicts belonged? It is not a question that is answered because it was never asked. Black stops at a high point: “[T]he most conclusive campaigns of this period occurred in civil wars.”<sup>42</sup> Civil War as a socio-military phenomenon is obstructively poorly studied.<sup>43</sup> The second circle of Black’s cycle remains an enigma.

Black’s cycle lays out the process of the military revolution as segmented but integral. It suits the comparison of different national cases, warfare models, and socio-political patterns inside each of the stages where they are truly comparable. And it provides a comparison between the stages regarding their basic difference and integrity as the parts of an all-in-one phenomenon. A further significance of Black’s cycle of the military revolution is its universalism. The socio-military transformation at least in two regions, neighboring but separate from Western and North-Central Europe, Eastern Europe and Ottoman Empire, conforms to Black’s cycle. In both leading polities of Eastern Europe, the Polish-Lithuanian Commonwealth and Muscovy (Russia), the stage of the Renaissance military changes was closed by civil war, Polish-Lithuanian Deluge, *Potop*, in the middle of the 17<sup>th</sup> century and the Muscovite Time of Trouble,

41 Black, *European Warfare*, 34

42 Black, *A Military Revolution?* 15

43 The current author is involved in the research project on “civil war and military change” together with Professors Mark Charles Fissel and Hubert P. Van Tuyll.

*Smuta*, in its first decades.<sup>44</sup> Then comes the stage of (aborted or enduring) fiscal-military consolidation and the rise of the regular army came. In the Ottoman Empire, the stage of the Renaissance military changes was followed by the civil war of the Celali rebels in the last decade of the 16th to the first decades of the 17<sup>th</sup> centuries.<sup>45</sup> Then the stage of the warmonger consolidation followed, which drove the Ottomans to Candia, Kiev and Vienna.<sup>46</sup> The universality of Black's cycle is the prime confirmation that while being an abstraction accurately presents historical reality: and it works. Together Glete's methodology on the national cases and Black's chronological cycle became the most instrumental revision of Roberts' concept of the military revolution that transformed it from being a description of the particular period of West-European history into the universal methodology of the study of the global Early Modern Period.

Most of the scholars researching the military revolution focus on the proliferation of firearms. Meanwhile, it is of secondary importance to the concept. The proliferation of firearms is a precondition to the military revolution which is the transformation of the society and political regime through the impact of military changes. The means of the military hold over the society and political regimes have to be established. It is the issue of the first importance for the study of the military revolution. And the influence of the European military changes on the global order is an adjacent issue. The new technical, organizational and tactical solutions that enhanced the fighting capabilities of armies and the efficiency of the military administration in the first circle of the military revolution are a matter of linear history, an evolution. Studying the military revolution in its first stage, it is necessary to look for those military changes that sharply debilitated Late Medieval warfare, ruptured the fabric of the Late Medieval society and burst it with civil war. It is also necessary to track the military innovations that had the potential to reconstruct the socio-political debris into the new model of the fiscal-military (Jan Glete) or elite-ruler consensual (Jeremy Black) states. We have "to link grand [socio-political] sweeps to particular [military technical, tactical and organizational] developments."<sup>47</sup> We have to establish *liaisons dangereuses*.

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44 See Frost, *After the Deluge*; Dunning, *Russia's First Civil War*, and some comparative details in Brown, "Muscovy, Poland and the Seventeen Century Crisis."

45 See Barkey, *Bandits and Bureaucrats*; Griswold, *The Great Anatolian Rebellion*.

46 See Ágoston, *The Last Muslim Conquest*.

47 Black, *European Warfare*, 33

*A duel of historiography.*

The main criticism of Roberts' thesis is directed by a perception of how dramatic the introduction of firearms was for military affairs, and in particular for the fighting capability and composition of armies. Roberts' notion of the impact of tactics on society and political regimes earned much less attention because its agents remain unclear.<sup>48</sup> The urging of the absolutist state with its coercive bureaucracy by military pressure remains the main and often sole explanation, and little has changed in this field since Roberts' and Parker's respective seminal studies. The reverse of this order of causation according to Jeremy Black's view that is cited above remains the main deviation. The historiographic picture of the military revolution in Eastern Europe sits within this frame. The front of the discussion divides the supporters of the onward military causation of the socio-political changes and the followers of the reverse view.

Robert Frost opens his essay on the military revolution in the Polish-Lithuanian Commonwealth by observing that the West-European experience of a "response for military demands [...] helped bring about the emergence of more effective centralized systems of government."<sup>49</sup> Frost looks at Geoffrey Parker's revisionist thesis that "changes in warfare were 'accompanied' by the changes in the nature of states" as the weakness of Parker's position in comparison with the Roberts' initial immediate tactical causation of social and political changes.<sup>50</sup> If "the relationship between governments, armies and societies had fundamentally changed by the early eighteenth century," Frost insists, something caused it.<sup>51</sup> Marshall Poe, a prominent scholar on the 15<sup>th</sup>- to 17<sup>th</sup>- century Muscovy, sees the causation issue similarly. "Under pressure to field ever larger and more complex forces, sixteenth- and seventeenth-century European leaders organized complex administrative systems which, in turn, spurred the process of bureaucratization of governmental service."<sup>52</sup> At the same time, the consensus of Frost and Poe about the onward military causation of the socio-political changes in Western Europe does not mean that they agree about their causation in Eastern Europe, in its two principal entities of the time, the Polish-Lithuanian Commonwealth and Muscovy.

Frost builds his conclusion about the Polish-Lithuanian military revolution

48 See Black, *European Warfare*, 35–38

49 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 20

50 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 22

51 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 21

52 Poe, "The Military Revolution, Administrative Development," 248

by comparing the fighting capabilities of the Polish-Lithuanian and Swedish, presumed to be West-European forces. He finds them on equal terms, as the Western tactical innovations that emphasized Roberts and Parker were effectively parried by Polish-Lithuanian fighting technique.<sup>53</sup> Frost's impressive comparison avoids the question which he points to at the beginning of his analysis. Why did the Western-style battlefield innovations produce the mighty socio-political transformation, and why the Polish-Lithuanian fighting technique, while no less combat-effective, did not? Another unanswered question follows: Maybe the Polish-Lithuanian military innovations did produce a different socio-political transformation than the fiscal-military, absolutist, bureaucratic state that was created by the Western military innovations? What did they produce? Handicapped absolutism, early liberal democracy, noble anarchy or some other political brat?

Frost fixes the watershed of the military revolution in the 1660s dividing the 17<sup>th</sup> century into two distinct halves. In the first one, the military innovations revolutionized the fighting capability of the armies, and they were grasped by the Polish-Lithuanian military commanders. However, the political constitution to utilize the new combat technique in its full superiority was not yet comprehended. In the second half, it became clear that this constitution is an absolutist bureaucratic state with a standing regular army.<sup>54</sup> In some way the military innovations did not work properly without this constitution, as only the two halves together are the integral military revolution. Its combat component was not apt without the absolutist political regime.<sup>55</sup> The Polish-Lithuanian nobles abhorred it and discarded the military revolution for their Republic. "It was the failure of the noble citizens of the Commonwealth to cross this psychological watershed which doomed it to a decline which was by no means inevitable."<sup>56</sup> By 1700 it was too late to catch up with the forerunners, and in a few decades the Commonwealth collapsed.<sup>57</sup> After this extensive analysis, Frost predictably reverses his initial view on the causation of military and socio-political affairs. "The Commonwealth's experience casts serious doubt on the view that the tactical changes on the battlefield led necessarily to political change, or that the relation-

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53 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 29–31, 32–36

54 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 38

55 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 46

56 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 38

57 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 46–47



ship between political and military change was smooth and inevitable.”<sup>58</sup> Frost resolves this question, the principal one for the military revolution debates, in an elusive way. “Military and administrative change was closely linked.” “The question of whether military change arose from or caused the ‘absolute’ state is in many respects a false one.”<sup>59</sup>

The military revolution of Poe’s theoretical entree is that the socio-political changes were pushed on by the technical and tactical military changes. by the middle of the 16<sup>th</sup> century the “borrowing, assimilating, and fielding of relatively advanced European arms and military organizations [...] in Russia produced significant social changes, perhaps more significant than those seen in other parts of Europe.”<sup>60</sup> Poe’s causation between the military changes and social transformation is steady but suddenly it cracks.

He substitutes the transformation of warfare with a “halting, gradual process of military reform misleadingly though conveniently termed the “Military Revolution.”<sup>61</sup> Together with Eric Lohr, Poe advocates that “the autocratically organized Russian ruling class was able to transform Russia into [...] ‘a garrison state’”.<sup>62</sup> The effective state and capable modern army were created by some “court elite” which was rallied by the idea of national greatness.<sup>63</sup> Lohr and Poe see this situation in Muscovy at the end of the 15<sup>th</sup> century, two centuries before the ascendance of the mobilizing elites in Western and North-Central Europe. Why was the Muscovite elite such an able upstart? Was it in some way enlightened by the Byzantine emigrants or divinely guided? Lohr and Poe do not provide an answer.

“First, the autocratic state[...] was born.” Then the military reforms were carried out by “the Muscovite elite [that] set about importing Western military technologies.” The necessary administrative class and the professional soldiers were brought up inside the elite.<sup>64</sup> Poe views the social changes in Muscovy as the imposed “stratification” resulting from “the government’s attempts to raise competitive armies and to mobilize resources in society to support them.”<sup>65</sup>

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58 Frost, “The Polish-Lithuanian Commonwealth and the ‘Military Revolution’,” 38

59 Frost, “The Polish-Lithuanian Commonwealth and the ‘Military Revolution’,” 46

60 Poe, “The Military Revolution, Administrative Development,” 247–48

61 Poe, “The Consequences of the Military Revolution,” 603

62 Lohr, and Poe, “Introduction,” 4

63 Lohr, and Poe, “Introduction,” 4–7

64 Poe, “The Consequences of the Military Revolution,” 617–18

65 Poe, “The Consequences of the Military Revolution,” 613

Western monarchs could use the existing “estates, town and corporations as vehicles to mobilize support and resources.” “Primitive” “Muscovite society contained few such groups,” and “the Muscovite elite had to create organized groups in society to respond to its needs.”<sup>66</sup> It was the stunning triumph of the “elite” over the political constitution and society. Nothing remained from the initial Poe thesis of the socio-political transformation originated in the military changes. He does not explain his swap, it is simply stated as a matter of fact.

Frost’s and Poe’s examples demonstrate the phenomenon of the historiography of the military revolution in Eastern Europe as full of duelling not between different historians but within each of them. Frost is a historian of events and people, the Polish-Lithuanian Commonwealth is his area of commitment. Poe is a historian of ideas and institutions, and Muscovy-Russia is his operand. These two leading historians of Eastern Europe in the Early Modern Period together embrace the entirety of subjects and methods of the historical studies on the subcontinent. And they both synchronously overturn their view of the causation of changes between military and socio-political affairs after a thorough study of the military revolution in their respective nations of expertise. Why?

*Early professional armies pushed constitutional change forward.*

Nothing in military history surpasses the importance of combat, - battles, sieges, raids, maneuvers and operations. Military matters outside of combat, - composition and command of forces, mobilization and reforms, weaponry and fortification, morale and learning about war, - are input to fighting the absolute value of which is its output, victory or defeat. It is the link between combat to society and political regimes. Do military matters outside of combat determine the course and outcome of fighting thus confirming the social and political guide to combat? Or does fighting give a mighty push to extra-combat military matters, that in turn shape the socio-political structures? Could we find and explain the impact of combat on them? It is the decisive challenge to the vitality of the military revolution concept. *Table 1, Combats in Eastern Europe, the middle of 15<sup>th</sup> – 16<sup>th</sup> cc.* in the appendix to the current essay contains twenty military events in Eastern Europe within the first circle of the military revolution cycle. There are battles, sieges, raids, operations, and campaigns among them. Some of them are renowned and some of them lack attention. The objective of *Table 1* is not to describe the battlefield events that presumably determined the inter-

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66 Poe, “The Consequences of the Military Revolution,” 613–14



Fig. 2. The Medieval roots of the Russian military revolution. In 1398 the amphibious forces of the Novgorodian Republic sieged the Muscovite fortress Orelets at the river Northern Dvina. The Novgorodian landing troops were well-equipped with the range of the siege machines that were transported dissembled, and built onsite. *The Russian Illustrated Anthological Chronicle of the Sixteenth Century. The Second Osterman's Volume*, Moscow. The library of the Russian Academy of Sciences, JL. 599. Courtesy of Runivers, Russia.

national fortune of the East European nations but to present those combats that promise a fruitful analysis of the issue set out above. The main properties of the military events are described in *Table 1* and their perception by historians is utilized in the narrative of the current essay to assess their importance for the military revolution the phenomena of which are history and whose concept is historiography.

On 18 September 1454 the army of the Teutonic Order crushed the Polish army at the fortress Konitz in Prussia, the Middle Baltics, initiating the chain of military events that either pushed ahead the socio-political transformation of Eastern Europe in the Early Modern Period or were imposed by this transformation (*Table 1*, Entry No 1). Robert Frost concludes that the battle of Konitz “offers little for the students of military science but in terms of its results, its influence on the future course of European history makes it at least as significant as Tannenberg [the battle of Poland and Lithuania against the Order in 1410].”<sup>67</sup> Frost admits that the battle of Konitz was the key military event decided by old-style armies, weaponry and tactics.<sup>68</sup> However, only the defeated Polish army was particularly medieval. The victorious Teutonic army at Konitz was different from the former Order’s combination of the monk-brothers, guest crusaders, land-allotted knights and urban militia that had been smashed by Polish fighting capability since the Tannenberg battle. It was a professional mercenary army adept at using the advanced weaponry and tactics of the Hussite Wars in Bohemia in the 1420s to 1430s<sup>69</sup> and the Hungarian wars against the Ottomans in the 1440s.<sup>70</sup> William Urban, a prolific Anglophone historian of the Teutonic Order, did not research the sudden appearance of the Order’s professional army. He only records it<sup>71</sup> even though this army was perhaps the most important Teutonic achievement, one widely envied and borrowed.

The facts make it look like the professional army of the Teutonic Order was created in response to the mutiny of the Teutonic estates that deprived the Order of its traditional estate-supplied forces. At the same time, the reverse order is more probable. The estates’ mutiny followed the Order’s recruiting of the

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67 Frost, *The Making of the Polish-Lithuanian Union*, 224

68 Frost, *The Making of the Polish-Lithuanian Union*, 224

69 Turnbull, and McBride, *The Hussite Wars*.

70 Bartok, Barnabas, “Janos Hunyadi,” Jefferson, *The Holy Wars of King Wladislas and Sultan Murad*.

71 Urban, *The Last Years of the Teutonic Knights*, Ch. 10; Urban, *Tannenberg and after*, Ch. 10; Urban, *The Teutonic Knights*, Ch. 11



professional army after the miserable fighting experience of the estate troops pushed the Order to the brink of survival in the conflict with Poland. Polish historians Mariam Biskup and Gerard Labuda demonstrate that conflict over taxes and tolls, land ownership and trade monopolies was the reason for the Union of the Teutonic estates', *Bund's*, revolt against the Order's government.<sup>72</sup> They do not suppose that the harsh Teutonic fiscalism gave to the Order the army of the new model. The Order's professional army was built up by the Order's administration which was no doubt the dictatorship of the religious fanatics, but it was a unique government devoid of the ordinary Late Medieval shortcomings of the aristocratic egotism or petty greediness of the estates. Neither Robert Frost nor William Urban links this Teutonic administration specifically to the modernization of the Teutonic army on the eve of the Konitz battle. For Jan Glete the permanent armies were the elements of the growing fiscal-military organization controlled by states.<sup>73</sup> Before the Teutonic army of 1454 only the Italian Republics of Florence and Venice, and the duchy of Milan had been able to establish professional statal armies<sup>74</sup> instead of the social armies of levies and militia interspersed by mercenary bands and private retinues that had been dominant in Europe.<sup>75</sup> The professional army of the Teutonic order was the first example in Eastern Europe of the non-social mercenary armies that were coming to dominate European warfare in the 16<sup>th</sup> to the first half of the 17<sup>th</sup> centuries, and this vitally important change was recognized by David Parrott and recently accentuated by Alexander Querengässer.<sup>76</sup> Querengässer does not develop his attractive thesis but Parrott explains that the superiority of the private forces depended on operational warfare, "continuous war fought over multiple campaigns."<sup>77</sup> It is exactly the case of the Teutonic successes against Polish odds in the campaign of 1454 to 1456.<sup>78</sup> The Teutonic initiative delivered a similar lesson to Eastern Europe that the Italian one had to Western Europe.

The Konitz debacle and subsequent failures of the traditional Polish forces acted on Poland like Leon Trotsky's "whip of the external necessity,"<sup>79</sup> and Walter Runciman's warning that the timely replacement of the "outdated military

72 Biskup and Labuda, *Dzieje Zakonu krzyżackiego*, 390–91

73 Glete, *War and the State in Early Modern Europe*, 30

74 Mallett, Michael. "Mercenaries," 222–23

75 Morillo, "Mercenaries, Mamluks and Militia," 250

76 Parrot, *The Business of War*, 13; Querengässer, *Before the Military Rev.*, V

77 Parrot, *The Business of War*, 153

78 See Shirogorov, *War on the Eve of Nations*, 52–54

79 Trotsky, *History of the Russian Revolution*, 5

practices” is the issue of survival.<sup>80</sup> Polish scholars Mariam Biskup<sup>81</sup> and Tadeusz Grabarczyk<sup>82</sup> emphasize the impact of the Polish levy’s disaster at Konitz on the transformation of the Polish army into a professional force. Frost, Grabarczyk and Brian Davies describe how Poland switched its forces from the gentry levy to the professional army of the native commissioned cavalry and contracted infantry of the German and Czech mercenaries.<sup>83</sup> The command of the Polish forces was transferred from the social leaders and territorial administrators to the career generals, *hetmans*. Katarzyna Niemczyk and Zdzisław Żygulski reveal that soon this office became permanent and was split between the office of the chief military administrator, crown *hetman*, and the office of the operational commander, field *hetman*.<sup>84</sup> The reform coincided with the trend towards the specialized separated military administration and combat command in the European armies of the Early Modern Period, which emerged in Italian Renaissance states as well.

The performance of the Teutonic professional army in the battle of Konitz accomplished two contrary social and political turnovers at once. The Polish setback cancelled the prospects of appeasement between the Teutonic Order and the estates of the Teutonic state. The Order aspired to absolute victory over the estates and became the theocratic military dictatorship, independent from society, an exemplary forerunner of European absolutism. The secularization of the Teutonic Order and its conversion into the hereditary dukedom, accomplished in 1525 by the last Prussian High Master of the Order, Albrecht of Prussia (Brandenburg-Ansbach or Hohenzollern) and his arbitrary change from Roman Catholicism to Lutheranism for himself and as compulsory for his subjects was the first act of this kind in Europe, reflecting a pattern of an absolutist religious constitution. At the same time, the constitutional balance in Poland dramatically shifted from royal authority to the nobility, *szlachta*, the power of which was embodied in its legislative Diet, *Sejm*. The royal prerogatives and domain were appropriated by the *Sejm*. They were alienated from the person of the king and turned into the possession of the *szlachta*’s corporation *Corona Regni Poloniae*. The changes among the *szlachta* as the social estate were profound. The equality

80 Runciman, *The Theory of Cultural and Social Selection*, 145

81 Biskup, *Wojna Trzynastoletnia*, 61–62

82 Grabarczyk, *Jazda Zaciężna Królestwa Polskiego*, 14–15

83 Davies, *Warfare, State and Society*, 18; Frost, *The Northern Wars*, 57–58; Grabarczyk, *Jazda Zaciężna Królestwa Polskiego*, Ch. 1

84 Niemczyk, “Kilka uwag do genezy i początków hetmaństwa,” 321, 324, 328–29; Żygulski, *Hetmani Rzeczypospolitej*, 5

of the hireling military service in the specialized military structure significantly differed from the service in the feudal levy where a coat of arms' clan structure and territorial composition dominated.<sup>85</sup> The service in the commissioned professional army slowly changed the social inequality inside the *szlachta* with the feeling of equal political rights and social privileges of all nobles and an understanding of their common class interest.

Frost describes how the bargaining over the finances that were needed to build up the professional army strengthened the class of nobles and weakened the royal authority. King Kasimir IV was forced to declare the turnover of power at the levy's assembly in its camps in Cerekwica and Opoki where levy established itself as the Mounted Diet, *Sejm Konny*, just before and soon after the Konitz battle. It was constituted in the Nieszawa *Statutes* (a kind of Constitution) of 1454 which started the transformation of the Polish Central-European estate monarchy into the specific form of the Republic of Nobles<sup>86</sup> that was the response of Polish society to the pressure of the military changes. Frost's description of the Konitz defeat's effect contradicts one of the key ideas of the military revolution concept whereby the resource mobilization for war invariably saw bureaucratic royal power take over estate governance. Nothing of this kind happened in Poland despite the extraction of resources for war increasing and their skilled allocation improving. Anna Sucheni-Grabowska, a Polish scholar, reveals the particular form of resource mobilization for the war that was found in Poland after the Konitz disaster. This was the transfer of the royal domain from the private enterprise of the king into the commonwealth of the nobility's corporation.<sup>87</sup> It seems that Frost's "weakening of the royal authority" was the reform that improved the fiscal effectiveness of the royal domain and channeled its funds to the military but in a non-absolutist manner.

The Polish military change and political transformation paid dividends on 17 September 1462 when the Polish army destroyed the Teutonic forces in the battle of Schwetz (Table 1, Entry No 2). Despite both sides being exhausted and down to meagre numbers, the battle of Schwetz decided the outcome of the Thirteen Years' War between Poland and the Teutonic Order, and determined the future of Prussia, Polish social structure and its political constitution. Marian Małowist, a Polish Marxist scholar, demonstrates how the Polish grab of Danzig

85 Górecki, "Words, Concepts, and Phenomena," 145; Skwarczynski, P., "The Problem of Feudalism in Poland," 307

86 Frost, *The Making of the Polish-Lithuanian Union*, 237–41

87 Sucheni-Grabowska, *Odbudowa Domeny Królewskiej*, 50, 52–53

and other staple ports of the Prussian Vistula's estuary connected the inner Polish rural economy via the Vistula riverway to the Baltic trade with its West-European markets. Since the middle of the 15<sup>th</sup> century, their demand soared for grain and other agricultural goods, and raw materials. The Polish landowning nobility used their legislative monopoly, secured at the time of the Konitz battle, to enserf the peasantry and arrogate its lands for manorial farming, *Folwark*, to produce the exported goods. The nobility excluded the town merchants from their export trade and dealt directly with the Western wholesale merchants in the Prussian staple ports.<sup>88</sup> The harsh Polish serfdom and weakening town bourgeoisie were the social consequences brought about by the battle of Schwetz.

Frost argues against the view of the domination of this economic system in Poland and its export-oriented rush.<sup>89</sup> Dominant or not, this picture does not correspond to one of the main ideas of the military revolution concept that the rise of the town's "third class" and cancellation of the "feudal" serfdom invariably accompanied the rise of the standing armies, infantry and firearms. The consequences of the establishment of a professional army in Poland were huge but different. Both Frost and Małowist stop short of defining the Polish *szlachta*-dominated enserfing political regime of the 16<sup>th</sup> to 18<sup>th</sup> centuries, often titled the *Republic of Nobles*, to be the legitimate scion of the battles of Konitz and Schwetz or at last their bastard. This political regime lasted until the Partitions and cancellation of Poland at the end of the 18<sup>th</sup> century, the full cycle of the military revolution. Polish decline was not "by no means inevitable,"<sup>90</sup> as Frost proposes, but was an inborn property of the socio-political regime that was established in Poland during and in the aftermath of the Thirteen Years' War. Three hundred years of enduring this regime and its remarkable survival through the Polish-Lithuanian civil war of the Deluge in the middle of the 17<sup>th</sup> century blocked the transformation of the Commonwealth into the fiscal-military state and denied the integration and emancipation of its non-*szlachta* social and ethnic groups that inevitably doomed it.

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88 Małowist, "Poland, Russia and Western Trade," 26–39; Małowist, *Wschód a Zachód Europy*, 110–14; see also Janeczek, "Town and Country in the Polish Commonwealth," 160, 169–171, 174

89 Frost, *The Making of the Polish-Lithuanian Union*, 244–46

90 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 38





Fig. 3. The battle where the Muscovite regular heavy cavalry was born. The servants vested the mail and plate armour on the Muscovite grand prince Vasily II before the battle of Suzdal against the Golden Horde's raiding corps in 1445. Vasily II rearranged his court forces into the regular regiment that became his leverage to consolidate Muscovy. *The Russian Illustrated Anthological Chronicle of the Sixteenth Century. The Golitsyn Volume*, Moscow. The library of the Russian Academy of Sciences, JL. 649 o6. Courtesy of Runivers, Russia.

*Combat innovations called forth the social classes.*

The almost simultaneous events in the Eastern Baltic confirm that the dramatic social consequences of the Thirteen Years' War were not a historical accident or mischance. They were the new paradigm for the military's influence on society and political regimes. On 14 July 1471, the Muscovite vanguard corps destroyed the army of the Novgorodian Republic in the battle of the river Shelon (Table 1, Entry No 3). Gustav Alef was the first in Anglophone historiography to find that the Muscovite army that achieved the landslide at the Shelon was a force of significantly different composition than the Medieval forces of North-Eastern Rus where Muscovy was consolidating. The Medieval Russian forces were the levy, urban militia, courts of semi-sovereign princes, and private mercenary bands. Alef accurately points out the outstanding components of the victorious Muscovite corps, its regular household regiment, *dvor*, mercenary Tatars, and *boyar* professional commanders leading the troops instead of the semi-sovereign princes.<sup>91</sup> Alef also detects the period when these innovations were introduced, between the lost battle of Suzdal in 1445<sup>92</sup> and the battle of the Shelon in 1471. Despite the prominent participation of the Muscovite *dvor*, a household cavalry regiment, as the main assault corps of the Muscovite army in the battle of the Shelon and other important engagements of the epoch, especial research on its military function is rare. The fundamental book by Aleksander Zimin<sup>93</sup> as well as the studies of Mikhail Bentsianov<sup>94</sup> and Aleksander Korzinin<sup>95</sup> are devoted primarily to the social composition of the grand prince's court and service relations of its members to the sovereign but not to its fighting commitment, that was underlined by Gustav Alef.<sup>96</sup> The latter is important because, as Benjamin de Carvalho advocates, "the standing armies were also a product of [...] changes in the social function and role of the warring classes; from private feudal lords to servants of the public interest of the sovereign."<sup>97</sup> The fighting *dvor*, a household cavalry regiment of the grand prince was the institute where these changes unfolded to spread over Muscovy.

The Tatar mercenaries of the Muscovite army are also better studied as an

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91 Alef, "Muscovite Military Reforms," 76–77

92 Alef, Gustave, "The Battle of Suzdal' ," 20

93 Зимин, *Формирование боярской аристократии*.

94 Бенцианов, *Князья, бояре и дети боярские*.

95 Корзинин, "Государев двор Ивана III."

96 Shirogorov, *War on the Eve of Nations*, 181–83

97 Carvalho, "Private Force and the Making of States," 16

anthropological group than a military force. An American scholar Janet Martin calls attention to the fact that between three different functions of the allied-vasal Tatar polity of Kasimov that was established in the 1450s, the supply of the mercenary cavalry was prominent.<sup>98</sup> A Russian scholar Andrey Negin shows that the Kasimov regiment had an organization different from that of the Tatar traditional clan forces. The men of the regiment weren't distributed in clan units but served directly as the rank-and-files of the Kasimov ruler, and the officers of the regiment weren't the heads of clans but were appointed by the ruler.<sup>99</sup> It was a combat-effective professional structure. Bulat Rakhimzyanov relates that the Kasimov rulers received an annual pension as a reward for their mercenary military service.<sup>100</sup> Kasimov Tatar troops were built according to the general line of the European warfare development of the second half of the 15<sup>th</sup> century to make war with contracted or commissioned armies,<sup>101</sup> especially when some special fighting techniques were in need like the Swiss pike columns, Genoese crossbowmen, English archers, the light cavalry of Balkan *stradiots* or Spanish *jinetes*, Czech wagon-camp, etc. The Muscovite generals needed the Tatar mounted bow-shooters.

The Shelon's landslide confirmed the fighting superiority of the Muscovite professional corps over the Novgorodian levy and militia. The consequences of the battle of the Shelon demonstrated the ability of effective military changes to diffuse, and if necessary, to break the social and political barriers. Richard Hellie, an American scholar, ties the social and political transformation of Muscovy (Russia) at the turn of the 15<sup>th</sup> and 16<sup>th</sup> centuries with the Muscovite destruction of the Novgorodian army and the brutal merging of the Novgorodian Republic. "Numerous lands were confiscated from Novgorod boyars, merchants, and church institutions and subsequently distributed to individuals loyal to Moscow [...] to military men."<sup>102</sup> From the battle of the Shelon "the middle service class had become the backbone of the Russian army" and the mailed cavalymen trained and equipped mainly for bow-shooting and less to attack at home with a spear and sabre became its principal fighter.<sup>103</sup> The Muscovite merger of the Novgorodian Republic took almost a decade and witnessed two

98 Martin, "Muscovite Frontier Policy," 179

99 Несин, "Участие Касимовского царевича Данияра," 15–16

100 Рахимзянов, *Касимовское ханство*, 114–15

101 Tallett, *War and Society in Early Modern Europe*, 139–40

102 Hellie, *Enserfment and the Military Change*, 26

103 Hellie, *Enserfment and the Military Change*, 26–30, 34

sieges of Novgorod with the deployment of large armies and artillery bombardment. The Muscovite artillery had an impact on the consolidation of the realm and the shaping of the national territory similar to the impact of the French royal artillery in the closing period of the Hundred Years' War. The rebellious towns and centers of the foreign interventions were equally suppressed by Muscovite gunfire.

The debacle of the Novgorodian Republic and severe repressions against its social classes shifted the balance of power from the estates to the Grand Prince's authority everywhere in North-Eastern Rus. It was the founding moment of the Muscovite authoritarian tradition. The Muscovite arrogation of the Novgorodian state and property also gave birth to the Muscovite bureaucracy in military and civil administration. Marshall Poe describes the emergence of the military "scriptorium" in Moscow, following the merger of Novgorod, to manage the build-up of forces and their operational planning, as well as "prebendal estates" and "direct taxation" to support the army.<sup>104</sup> The main body of the army was no longer levy and militia but semi-standing territorial companies established first over the former Novgorodian Republic and then overall in Muscovy. Michael Paul, an American scholar, sees this organizational reform, together with the introduction of firearms, as evidence of the beginning of the military revolution in Muscovy.<sup>105</sup> The organizational reform consolidated the former various martial social groups of free landowners, hirelings and personal dependents, who had reported by the chain of masters to the semi-sovereign princes, into the integral service class managed by the grand prince's Military Chancery, *Razryadny Prikaz*.<sup>106</sup> Did the men of the new Muscovite territorial cavalry compose the Hellie's middle service class from the very beginning or were they the military personnel looking after their position in Muscovite society for a much longer period? It is a debatable issue. Chronologically their military commitment came first, and it is an example of the outright socialization of the military but something different from what is expected from the military revolution.

The pace of the Muscovite military changes was fast. When on 8–11 October 1480 the much superior army of the Grand Horde, the mightier successor of the Mongolian Medieval super-empire Golden Horde, charged over the fords of the river Ugra to advance on Moscow it was halted by a Muscovite army completely different from the array that the Grand Horde expected to meet (Table

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104 Poe, "The Military Revolution, Administrative Development," 254, 259

105 Paul, "The Military Revolution in Russia," 14

106 Paul, "The Military Revolution in Russia," 14–15



1, Entry No 4). The Muscovite troops were not an outdated combination of the gentry levy and urban militia with court bands. Besides the standing household cavalry, they consisted of the territorial cavalry companies of the service class. "The middle servicemen were neither a standing army nor infantrymen, the basis of armies in the wake of the Military Revolution, [...] furthermore, their weaponry comprised bows and arrows, swords, and spears, and not gunpowder weapons."<sup>107</sup> Michael Paul considers that Muscovy had to copy the outdated technique of the Tatars and Poles-Lithuanians to oppose them.<sup>108</sup> Meanwhile, from the practical combat point of view, the value of the military revolution consists of the deployment of superior fighting innovations against a backward enemy. The alleged backwardness of their enemies was the motivation to push Muscovites to the newest warfare techniques and not veer from them.

Vitaly Penskoy, a Russian scholar disposed to the military revolution concept, considers that the confrontation of Muscovy with the Tatar successors of the Golden Horde caused the "orientalization" of the Muscovite army. Penskoy denies the well-established Anglophone version of the Muscovite borrowing of the Mongolian-Tatar political institutions and military practices due to the two ages of the Yoke, the North-Eastern Rus' dependence and its rulers' servitude to the Golden Horde. The latter idea is presented in the studies of Iver Neumann,<sup>109</sup> Donald Ostrowsky<sup>110</sup>, Jaroslaw Pelenski,<sup>111</sup> and Matthew Romaniello.<sup>112</sup> Penskoy's "orientalization" is exactly the phenomenon of his interpretation of the military revolution beginning at the turn of the 15<sup>th</sup> to 16<sup>th</sup> centuries, the Muscovite synthesis of "eastern" weaponry, armor and fighting techniques with the achievements of the "gunpowder revolution" such as the artillery and infantry of handgunners. Penskoy depicts the "first stage" of the Muscovite military revolution as being the combination of simultaneous "progress" with the adoption of advanced gunpowder weaponry and tactics, and professional military organization from Western Europe, and the imitation of the backward but efficient Tatar fighting practices.<sup>113</sup> Penskoy's military revolution in Muscovy is intensive but

<sup>107</sup> Paul, "The Military Revolution in Russia," 16

<sup>108</sup> Paul, "The Military Revolution in Russia," 36–37

<sup>109</sup> Paul, "The Military Revolution in Russia," 36–37

<sup>110</sup> Ostrowski, *Muscovy and the Mongols*; Ostrowski, "The Military Land Grant;" Ostrowski, "The Mongol Origins of Muscovite Political Institutions."

<sup>111</sup> Pelenski, "State and Society in Muscovite Russia."

<sup>112</sup> Romaniello, *The Elusive Empire*.

<sup>113</sup> Пенской, *Великая огнестрельная революция*, 321–23; Пенской, *Военное дело Московского государства*, 77–78

far from linear and far from parallel to its Western co-runner.

The Grand Horde was unable to overrun the Ugra's crossings, abstained from engaging the Muscovite army and retreated to the steppes despite the Muscovite stance becoming desperate in face of the Grand Horde's numerical odds after the Ugra froze. Muscovy soon eclipsed the Grand Horde as the military hegemon of Easternmost Europe and Western Eurasia. The geopolitical consequences of this shift were dramatic, as the whole nomadic civilization of steppe Eurasia that dominated the regions from the Northern Black Sea and the Caspian Sea shores, North Caucasus and Central Asia to Northern India, Southern Siberia, Mongolia and Northern China fell into decline. The Eurasian nomads achieved great conquests in the 16<sup>th</sup> to 17<sup>th</sup> centuries, nevertheless they lost undisputable military superiority over their settled neighbors, a fact confirmed forever at the Ugra's crossings in 1480. The influence of the Ugra standoff on the Muscovite society was similarly profound.

The lack of numbers that the Muscovite rulers suffered from in their duel with the Grand Horde over the Ugra moved them to expand the service land allotments system from the personal deal between the ruler and warrior to the general principle of the organization of the Muscovite service class. The allotments and service obligations of their recipients were standardized, and the cash stipend was introduced as the basis for campaigning remuneration making the military service of the service class a mixed obligation and hire arrangement. Not only in conquered Novgorod, where the prebendal system was close to the local military tradition but over the whole of North-Eastern Rus where it contradicted the existing proprietary constitution, the prebendal allotment was imposed. The chosen men of the urban militia, dependent retainers, some free peasants and marginals were pressed into the new social strata of the military servitors. Gustav Alef detects this change,<sup>114</sup> and Russian scholars Yury Alekseyev and Aleksander Kopanев accentuate it.<sup>115</sup> Mikhail Bentsianov describes how from the reforms of the prebendal allotment system after the Ugra standoff, the true existence of the middle service class of *pomeshchiks* could be tracked.<sup>116</sup> Richard Helie affirms that this class "constituted the major military force of the consolidated Muscovite state until the completion of the gunpowder revolution

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114 Alef, "Aristocratic Politics and Royal Policy," 83–84

115 Алексеев и Копанев, "Развитие поместной системы в XVI в." 58

116 Бенцианов, "Дети боярские «наугородские помещики»,» 255; Бенцианов, "Формирование поместной системы," 43–44

in the second half of the seventeenth century.”<sup>117</sup>

The standoff at the Ugra had also structural consequences for Muscovy’s political regime. At the moment of perilous strain, Grand Prince Ivan III called up the first legislative of the estate representatives to vote for maximum mobilization and to take an uncompromising stance against the Grand Horde. The military service class dominated the legislative until its final act, the Law Codification of Empress Catherine II the Great in 1768. Considering that the class of *pomeshchiks* presided over the Muscovite-Russian political hierarchy and social structure until at least the end of the 19<sup>th</sup> century, the social impulse driving the Ugra standoff is difficult to overestimate. However, the five century-long social momenta that it pushed looks strange perceived through the lense of the presumed military revolution, because the Muscovite military service class was not created by or associated with the firearms. Together with the Polish republic of *szlachta*, the Muscovite tsardom of *pomeshchiks* demonstrates that the battlefield events of the early military revolution were able to create social phenomena of great endurance.

Were the constitutional and social consequences of the battlefield events, that are presented above, an organic development? Or were they the products of the reflection of the dominant political class, as proposed by Robert Frost? Were they the results of the social *dirigisme* of the “court elite,” as is argued by Marshall Poe? The current author inclines to organic development. The Polish and Muscovite changes of warfare combined the initiative of the field commanders and the central military reforms. Supporting the former and providing the latter, the rulers of both realms were not looking for a new political constitution or social classes but for effective military personnel and the improved performance of the troops. The rulers and commanders borrowed or invented the military patterns that turned into social and political changes on their own. The social accommodation of the new professional armies was the political action of their personnel, social groups and political factions linked to the new armies. This self-made manner of social and political transformation, independent of the will of the rulers and elite, became the reason why the military innovations and the socio-political structures that they created came into conflict with Late Medieval society and the mentality of the epoch and destroyed them in subsequent civil wars a century later.

<sup>117</sup> Hellie, *Enserfment and the Military Change*, 33

*The conflicts push the nation-state forward.*

From May to July of 1487, when the Muscovite forces besieged the city of Kazan, the Kazan - Muscovite confrontation was perceived as a clash of cosmic dimensions due to its religious, Christian-Muslim, and ethnic Russian-Tatar content (Table 1, Entry No 5). Kazan surrendered, and the Khanate of Kazan was reduced to a Muscovite protectorate, despite the lineage of its statehood descended from the Golden Horde that was much superior over the Muscovite status. The Kazan Khanate was also a Muslim state, religiously alien to Orthodox Muscovy. The Muscovite protectorate over the Kazan Khanate was the first acquisition of the forthcoming Russian Empire. It foreran Russian expansion beyond the political body of the former pre-Mongolian Rus, first into the ecumene of the Golden Horde and then out of its reach.

The studies by Russian Mari and Tatarstan historians Alexander Bakhtin and Bulat Khamidullin demonstrate that the Muscovite taking of Kazan in 1487 was the pivotal event in the geopolitical rivalry between the Grand Principality of Moscow, which was merging the polities of North-Eastern Rus on a Russian ethnic and Orthodox religious basis, and the Khanate of Kazan, which aspired to control the Tatar, Turkic and Ugric peoples of Easternmost Europe on the Golden Horde's conquering tradition. The Muscovite army overran Kazan and Moscow obscured Kazan as the political hegemon of the region.<sup>118</sup> Bakhtin and Khamidullin do not reach the conclusion that is apparent here. The confrontation of the two emerging polities ran exactly according to the European trend that accompanied the military revolution. It was the disappearance of the states of the conquering, dynastic, economic cooperative and territorial formation and the rise of the ethnic nation-states and religious community-states (often coinciding), forerunners of the Modern nations. In 1487, the statehood of the Kazan Khanate was not cancelled by the Muscovite protectorate but tremendous shifts of this kind rarely occur at once but require long repeated actions, and Muscovy was stubborn enough to deliver it over the century ahead. This Muscovite stubbornness rather confirms than denies the historical sense of this struggle.

Besides the geopolitical consequences, the Muscovite taking of Kazan in 1487 had important practical lessons for fortress architecture in Eastern Europe that became closely bound to geopolitics. Michael Paul considers that the Muscovites "never adopted the *trace italienne* but used the 'reinforced castle' style of fortification." They were more committed to strengthening their pali-

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118 Бахтин и Хамидуллин, "Политическая история Казанского ханства," 289-300



sade-type fortifications than building the stone bastions.<sup>119</sup> The Muscovite taking of Kazan in 1487 was the first big siege in Eastern Europe that was decided by gunfire. The impression was sound. Soon after it, as Gustav Alef finds, the Livonian Order, Muscovy's rival in the Eastern Baltic, implemented the first known technological embargo against Muscovy and restricted its purchase of firearms, raw materials for their manufacture and hiring of the craft's masters.<sup>120</sup> Richard Hellie attributes the "radical changes" in the East-European fortifications following "the progress in artillery" to the closing decades of the 15<sup>th</sup> century.<sup>121</sup> Russian military historian Pavel Rappoport and historian of architecture Nikolay Kradin advocate that the deployment of the wall-crushing firearms substantially changed the construction of the wooden fortress defenses in Eastern Europe, where they dominated.<sup>122</sup> At the end of the 15<sup>th</sup> century, the wooden wall of the vertical lumbers dug into the earthen mound, *tyñ* in the Russian fortification lexicon, and Michael Paul's "palisade" was changed to the composite construction consisting of the large square wooden frames filled with pebble and clay, *gorodnya*. The resulting construction was almost impregnable for the wall-crushing artillery. Was it "*trace kazanienne*," the best possible alternative to the stone bastions considering the materials and skills abundant in Eastern Europe? Probably, it was.

Michael Paul's conclusion that "Russia's technical advances in warfare were usually made by Western experts imported into Russia"<sup>123</sup> is a misestimation. The Muscovite preferred to solve the same fortification issues that challenged the Western architects in a locally suitable way. Lithuanians and Kazanians, the Muscovite rivals in the vast East-European forests, acted in parallel. The new fortress design allowed the Muscovite rulers to aggregate the national territory in the frontier areas to the east and south, and to the west in the borderland with Lithuania, a huge territorial conglomerate that soon became the main prey of the Muscovite expansion. Jeremy Black is right when he states that the "fortresses performed the crucial strategic function of securing lines of supply and communication, for example [...] between the Baltic and Black Seas and the great river routes of Eastern Europe. [...] Fortifications stabilised the inchoate borders of

119 Paul, "The Military Revolution in Russia," 30–31

120 Alef, "Muscovite Military Reforms," 79–81

121 Hellie, *Enserfment and the Military Change*, 157, 185

122 Крадин, *Русское деревянное оборонное зодчество*, Ч. 1; Раппопорт, *Очерки по истории военного зодчества*, 170–73

123 Paul, "The Military Revolution in Russia," 32

Eastern Europe and were the signs and sources of political control in an area of multinational empires and no firm historical boundaries.”<sup>124</sup> The invention of the affordable and reliable fortress design led to the division of Eastern Europe for the territories of nation-building.

The nation-building at the expense of the Golden Hord’s conquering legacy and Lithuanian dynastic conglomerate soon became the norm for the emerging East-European nations. The Polish expansion to the Northern Black Sea region unfolded on 8 to 9 September 1487 when the Polish regular court cavalry destroyed the major Crimean raiding party in double combat at the river Shavranka and the village of Koperstin in Western Podolia (Table 1, Entry No 6). The outcome of the combat at Shavranka and Koperstin confirmed that the professional cavalry troops were able to out maneuver the large Crimean raiding parties and destroy them in direct battle. A Polish historian Marek Plewczyński states that the victories of the Polish regular court troops over the Tatar raiding parties at Shavranka and Koperstin became the basis for the important argument for establishing the permanent corps of the southern border defence,<sup>125</sup> known as *Obrona Potoczna* since the 1520s and *Wojsko Kwarciane* after 1563. The corps had the composition of the regular troops established in the Thirteen Years’ War against the Teutonic Order. It consisted of the native Polish commissioned cavalry and native commissioned or foreign contracted mercenary infantry. The permanent corps of the border defense became the unit where the new weaponry and tactics were first introduced to be tested and learned. It also became the prime school of military command for the Polish aristocracy.

Robert Frost promotes a thesis of the Polish adoption of military innovations from the West by the Polish aristocrats travelling there for education and leisure.<sup>126</sup> He underestimates the lessons that the Polish soldier nobles learned fighting in the Ukraine, the steppe frontier, increasingly the prime region of the Polish fighting commitment from the end of the 15<sup>th</sup> century. Brian Davies admits that “Russia’s military conflict with the Crimean Khanate [...] exerted as much impact on Russian military reform as the empire’s wars with Poland-Lithuania, Livonia, and Sweden,”<sup>127</sup> but Robert Frost does not consider the same for Poland. However, Poland did not have a large conflict in the West after the last

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124 Black, *A Military Revolution?* 55

125 Plewczyński, *Wojny Jagiellonów*, VIII,3

126 Frost, *The Northern Wars*, 48; Frost, “The Polish-Lithuanian Commonwealth and the ‘Military Revolution’,” 24–25

127 Davies, *Warfare, State and Society*, 1



Fig. 4. The last stand of the Polish levy. Its slaughtering by the Moldavian peasant militia in the Kozmin Forest in 1497 finished the levy's fighting career. Never again it composed the bulk of the Polish army and determined the course of campaigning. *The Russian Illustrated Anthological Chronicle of the Sixteenth Century. The Shumilov Volume*, Moscow. The Russian National Library, JL 550. Courtesy of Runivers, Russia.

third of the 15<sup>th</sup> century besides the dynastic quarrel in Bohemia and Hungary. Poland fought almost exclusively against the East. Aleksander Bołdyrew, a Polish historian, argues that due to the learning in the East, the smooth regularity of the *Obrona Potoczna* was used not for mastering the products of the Western military revolution, like its firearms and infantry squares, but the cavalry's adoption of Tatar bow-shooting and loose melee.<sup>128</sup> The process was similar to the Western trend of lighter cavalry but with a different tactical reasoning. Contrary to the cavalry, the Polish mercenary infantry developed along West-European lines. Polish historians Tadeusz Grabarczyk<sup>129</sup> and Jan Szymczak<sup>130</sup> demonstrate that the Polish regular infantry was rearmed with advanced types of handguns and learned effective fighting techniques by the end of the 15<sup>th</sup> century. The opposite directions of the military revolution for the Polish regular cavalry and infantry in the specific regional fighting conditions are stunning. They are similar to the Muscovite "orientalization" advocated by Vitaly Penskoïy.

Formation of the Polish regular corps of the southern border defence together with the fortification of the Polish Galicia, Western Volhynia and Western Podolia, slowly made the military situation in the region suitable for its agricultural colonization and its connection to the Baltic trade of the grain and raw material exports to Western Europe by the rivers Western Bug and Vistula. The enormous latifundia with an open border to the steppe were allotted to the Polish magnates who built their castles and raised their private armies to protect their possessions against the Tatars and police the peasants. The successes of the Polish regular troops against the Crimeans, like at Shavranka and Koperstin, alternated with debacles, such as those at Wiśniowec in August of 1594, and the levy's results were dramatically worse. Since the Crimean forces were able to engage and defeat the Polish and Lithuanian field armies, the distributed defense of fortified settlements became the main operational design against the Crimean raids. The distributed defense supported the fragmented body politic. Since the Polish Galicia, Western Volhynia and Western Podolia, as well as Lithuanian Eastern Volhynia, the first objectives of the Tatar strikes were the regions of the vast magnate estates with private castles and towns, strengthening of the magnate private troops limited the royal ability to suppress the magnates and monopolize the war in the national territory. The party of magnates, both in Poland

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128 Bołdyrew, "Przemiany uzbrojenia wojska polskiego," 121–22; Bołdyrew, "The Bow in the Borderland," 12–15

129 Grabarczyk, "Firearms in Equipment of the Mercenary Troops," 53–54, 56; Grabarczyk, "Ręczna broń palna," 35–36

130 Szymczak, *Początki broni palnej*, 42–45



and Lithuania, was empowered by their standing private armies, some of which were larger than the Polish regular corps of the border defense.

Brian Davies describes the Polish-Lithuanian frontier latifundia as being of two types, the grain-producing in the Western Rus (now-a-day Belarus), for export via the prospering Baltic trade, and cattle-ranching and tax-revenue in the South-Western Rus (contemporary north-western and central Ukraine).<sup>131</sup> Davies does not relate the two different kinds of magnate troops to two different kinds of magnate latifundia. But this relation looks probable, if the Baltic export latifundia were supporting the commissioned royal troops, magnate-raised companies on the royal service, and the Ukraine cattle-ranching and tax-revenue latifundia were supporting the private magnate troops acting on their own and together with the regional levy. Both commitments of the magnate troops associated the magnates, as the certain socio-political strata of the Polish society, with the professional troops where the military innovations nestled. This interesting commitment was increasing, it determined the Polish way of the military revolution and model of the fiscal-military state. The submission of the gentry to the magnate-dominated centers of the local economy and territorial defense subordinated the gentry to the magnates who recruited it to their private troops and political factions. The trend was opposite to the situation in Western Europe where the gentry became the social base of the royal suppression of the feudal magnates and the formation of absolutism. The latifundia economy and private magnate troops became the foundation of the Polish magnate body politics that directed the Polish merger of Lithuania in the second third of the 16<sup>th</sup> century and the colonization of the Ukraine in the last third of the 16<sup>th</sup> century. They also brought the Polish-Lithuanian Commonwealth into a civil war with its Ukrainian subjects in the first half of the 17<sup>th</sup> century.

The invasion of the southern Polish frontier by the regular professional armies of the cavalry and infantry with firearms was only one of the factors indicating the military revolution's influence in this God-forsaken region that started to ascend to central geopolitical importance in Eastern Europe. In April of 1493, a few hundred of the fresh hireling troops of the Lithuanian Kievan governorate with a few hundred of the mercenary Tatar exiles stealthily followed the Crimean raiding party, returning from an incursion at Kiev, to the Crimean fort Tyagin at the river Dnieper's crossing and overran the fort by surprise. In the following Fall, the Lithuanian troops of the same composition attacked the Crimean-Ottoman fortress Ochakov (Özü) at the Dnieper-Bug Gulf. They sacked Ochakov's

<sup>131</sup> Davies, *Warfare, State and Society*, 3



downtown area and burned some Ottoman craft in its port (Table 1, Entry No 7). It was the hit-and-run cavalry raid of a comparatively minor scale without the employment of firearms or any innovative technique. Tactically it was a replica of the Tatar raids. Nevertheless, the Lithuanian assaults of 1493 on the Crimean and Ottoman facilities in the Northern Black Sea steppes became a demonstration of the Lithuanian military revival after the catastrophic sack and burn of Kiev by the Crimean army in 1482 and lost to Muscovy the protection rights over the polities in the river Oka's upper reaches and the Principality of Tver in the 1480s.

The new hiring troops of the Kievan governorate became an important component of the Lithuanian military reform of the last third of the 15<sup>th</sup> century. The reform was run by the newly educated generation of Lithuanian administrative magnates who promoted the ideas of the military changes learned in Poland and Western Europe, and their inventions.<sup>132</sup> It was focused on the build-up of the professional forces and rearrangement of the martial estate in Lithuania proper and its provinces in South-Western and Western Rus. Ukrainian historian Natalia Yakovenko shows the reshaping of the East-Volhynian gentry according to the Polish pattern with the introduction of the Polish-style provincial legislative and levy.<sup>133</sup> The East-Volhynian levy became the backbone of Lithuanian defense against the Crimean Khanate in the 16<sup>th</sup> century. However, the Polonization of the East-Volhynian gentry alienated it from the regional peasantry and townsfolk who adhered to their identity. In the 17<sup>th</sup> century, the rift ignited a civil war of the Commonwealth against its Ukrainian subjects.

In the steppe frontier that amounted to a third of Poland and half of Lithuania, contrary to the West European practice, it was not the royal armies but the provincial garrisons and field forces that became the faster learners of the military revolution. Lithuanian historian Gediminas Lesmaitis demonstrates that the frontier garrisons became the centers of the military changes including the establishment of the professional troops of the gentry, and the adoption of handguns, artillery, and modern fortifications.<sup>134</sup> Besides the reorganization of the levy and the gentry's switch to the hire service, the Lithuanian reformers recruited the regular provincial troops among the elements marginal in the Medieval social stratification but ready to fight, soon named the Cossacks. They became especially important in Lithuanian Eastern Podolia and Kievan Land

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132 See Shirogorov, *War on the Eve of Nations*, 141–65

133 Яковенко, *Українська шляхта*, 226

134 Lesmaitis, *Wojsko zaciężne w Wielkim Księstwie Litewskim*, 49, 51

where after the Crimean devastation of the 1480s there were not gentry and only close vicinity of few the grand prince's castles remained inhabited. The Lithuanian raid on the Crimean-Ottoman facilities in 1493 signified the emergence of the Dnieper Cossack military corporation that slowly climbed to become the major force in Eastern Europe in the 17<sup>th</sup> century and the armed backbone of the future Ukrainian nation. Ukrainian scholar Sergiy Lep'yavko explains that the Dnieper Cossackdom emerged as a result of the mutation of the lower strata of South-Eastern Rus' military estate, *slugi*, due to the specific needs of the territorial defense of the settled population against the Tatar raiding for slaves and spoil.<sup>135</sup> Contrary to Poland, in Lithuania not magnates but frontier commonfolk became associated with the firearms and professional troops.

Serhii Plokhyy bounds the social and national process of the Cossackdom's growth with the military revolution, in particular, the diffusion of firearms and learning of the tactics of fighting with them against mounted bowmen.<sup>136</sup> Ukrainian scholar Boris Cherkas associates the socio-political lift of the Cossack corporation with their fighting successes against the Crimeans<sup>137</sup> that they achieved using the firearms. The Cossacks became the prominent force among other kinds of troops and martial groups in the Polish-Lithuanian frontier since the Cossacks' social position and military competence pushed them from a traditional Polish-Lithuanian defensive stance onto the offensive.<sup>138</sup> Sergiy Lep'yavko considers that the Cossackdom became the particular frontier community, the important part of "the Defensive Range" of Europe that safeguarded it against the Turkic-Muslim onslaught.<sup>139</sup> At the same time, Hans-Jürgen Bömelburg, a German scholar, claims that the Cossacks and Tatars composed "a market of violence" in the vast Northern Black Sea area, that was revolving around the raiding, banditry, spoil resale, slave trade and mercenary warfare<sup>140</sup>. The firearms were utilized in Eastern Europe, first of all, not by the troops of the centralizing governments, as in Western Europe, but the weakly controlled frontier bands and communities, a source of the devastation and instability which hindered the centralization. The emergence of the Dnieper Cossackdom as the particular ethnic military stratum became one of the most important examples of

135 Lep'yavko, *Козацькі війни*, 33–35

136 Plokhyy, *The Cossacks and Religion*, 30

137 Черкас, *Україна в політичних відносинах*, 233–34

138 Черкас, *Україна в політичних відносинах*, 240–42

139 Lep'yavko, *Великий кордон Європи*, Ч. 4

140 Bömelburg, "Introduction and Commentary," 181, 183

the social and political consequences of the proliferation of firearms in Eastern Europe. It was very different from the rise of the urban “third class” that historians find in the military revolution in Western Europe. But its difference does not mean a lesser significance.

The rise of the Cossackdom with its specific recruitment base and fighting technique, and the development of the standing professional troops of the border defense remained the only available solution for Poland and Lithuania to keep their Ukrainian possessions and prevent the Crimeans from raiding and marauding as far as the Baltics. The disastrous failure of the joint Polish-Lithuanian advance on the Ottoman holdings on the Northern Black Sea shore in 1497, with the slaughtering of the Polish levy in the Kozmin Forest and failure of the Lithuanian levy to move on the Crimea, was followed by the Ottoman marcher *Beys*’ invasion into Galicia, Western Volhynia and Southern Poland in 1498. In 1500, the Crimean transcontinental raid was launched across Eastern and Central Poland as far as Prussia and Lithuania proper, the new generous slave-extraction objective of the Crimeans.<sup>141</sup> The Polish and Lithuanian forces appeared unable to repel the new operational design of the Crimean Khanate in the steppes. It was the first stage of the forceful military changes of the Crimean Khanate, a nomadic successor of the Golden Horde. The Ottoman and Crimean raiding offensive of 1498 to 1500 and the Polish-Lithuanian fall back on the distributed defense of the garrisoned castles opened the two centuries long geopolitical contest over the civilizational adherence of the Northern Black Sea steppes (contemporary southern Ukraine and European Russia) to either the Turkic-Tatar Muslim or East-European Slavic Orthodox areas.

### *Combat set the order for the center and periphery.*

In the Early Modern Period, nation-building was both a social, economic, and demographic agenda, and a tactical issue. Some states were unable to resist aggression from outside and collapsed despite the perfect political programs of their rulers. In the initial years of the 1500s, most of Lithuania was burned down, devastated and depopulated by the Crimeans who raided around the Lithuanian capital, Wilno, and collected their spoil and slaves in the camps that they set in what is nowadays central Belarus. Muscovy, the Crimean ally, defeated the Lithuanian army in a major battle at the river Vedrosha in 1500 and annexed the eastern third of Lithuania. Lithuania’s chances of survival looked

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141 Shirogorov, *War on the Eve of Nations*, 316–36



Fig. 5. The origin of the East-European wagon-camp (wagenburg, tabur, oboz) tactic. Probably, it was the invention of the Lithuanian grand prince Vitovt, his synthesis of the Tatar nomadic cart barrier against the agile enemy, and Teutonic wagenburg as a field fortification. Vitovt introduced the wagon-camp in 1399 for his lost battle against the Golden Horde at the river Vorskla. *The Russian Illustrated Anthological Chronicle of the Sixteenth Century. The Second Osterman Volume*, Moscow. The library of the Russian Academy of Sciences, JI. 613 o6. Courtesy of Runivers, Russia.

bleak and its being split between its enemies, Muscovy and the Crimea, and its ally, Poland, looked more probable. In this unbearable situation on 5 August 1506, the Lithuanian army destroyed the large Crimean raiding corps at the town of Kletsk (Table 1, Entry No 9). The battle of Kletsk had huge military consequences. Polish historian Stanisław Herbst who is regarded in his country as a forerunner of the military revolution concept<sup>142</sup> describes in detail in two of his works<sup>143</sup> the design and use of the new Polish-Lithuanian tactic against the Crimean cavalry at Kletsk in 1506 and Lopushno in 1512. The interaction of the cavalry and handgunners in the wagon-camp, *oboz*, became its mainstay. American historian Brian Davies demonstrates in his detailed study of the wagon-camp formations and tactics in Eastern Europe, that the wagon-camp gained its “significance in the fifteenth century when combined with the gunpowder revolution.”<sup>144</sup> The sound Polish-Lithuanian victories over the Crimeans, Muscovites, and Moldavians, like the battles of Lopuszno 1512, Orsha 1514, Obertyn 1531, were achieved by the *oboz* deployment. It was also borrowed and utilized by the Muscovite army in its most important clashes with the Crimeans, like the battles of Sudbishchi in 1555 and Molodi in 1572. And the tactic of the *oboz* was professed by the Ukrainian Cossacks in their national revolt against Polish oppression in the middle of the 17<sup>th</sup> century. The Russian and Ukrainian armies relied on the tactic of the *oboz* fighting together to repel the Polish and Ottoman invasions of Ukraine in the second half of the 17<sup>th</sup> century. It was the tactic of strategic warfare.

The Polish historian Marek Plewczyński describes the changes that the tactic of the *oboz* brought to the deployment of the Polish cavalry. The former linear array was dropped as ineffective and a new pattern was introduced that became known as the Old Polish array. Probably, it was first tried in the battles of Kletsk in 1506 and Lopuszno in 1512 together with the *oboz*. The array was based on two principles that were similar to the organizational and tactical reforms of other European armies. The first one was the difference between the administrative units, the company, *rota* and *chorągiew* in the Polish case, and the tactical unit, battalion, *hufce*. The Old Polish array consisted of four principal *hufces*, vanguard and main forces, and, a significant innovation, three lines of the reserve *hufces* on the array's wings to maneuver the reserves in a fast and flexible

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142 Gawron, “Poglądy Stanisława Herbst,”

143 Herbst, “Kleck 1506;” Herbst, “Najazd Tatarski 1512 r.”

144 Davies, “Guliai-gorod, Wagenburg, and Tabor Tactics,” 99



manner according to the tactical situation.<sup>145</sup> Plewczyński also demonstrates the practical use of this array in the battle of Obertyn in 1531 and explains how the tactic of the Old Polish array was effective against the enemy superior in numbers and mobility. It was the array that provided the conditions for flexibility and assault.<sup>146</sup>

Soon it became clear that the deployment of *oboz* and the Old Polish array were also imperative. On 2 August 1519, the joint Polish and Lithuanian army that gathered to counter a major Crimean raid was annihilated at the town of Sokal (Table 1, Entry No 11). The Polish-Lithuanian army consisted totally of cavalry because the Polish standing corps of the border defense, with its infantry of handgunners, field artillery and wagon-camps, was swept aside by the Crimeans when they ravaged the vicinity of Lublin and Lvov. The defeat of Sokal was a sour reminder to the Poles and Lithuanians that the cavalry of the Central-European type, including the professional units, was inferior to the cavalry of the East-European type, Crimean, Turkish, Muscovite, in combat of maneuver with remote fighting, due to the latter's superiority in bow-shooting and tactical flexibility.

Brian Davies states that "the royal castles could not play an important role in frontier defence strategy [of the Polish-Lithuanian Commonwealth]. There were too few of them, especially in the eastern half of Ukraine."<sup>147</sup> And the small wooden forts with two to three guns which were built to provide a shelter for the locals "could not dominate the territory."<sup>148</sup> The actions of the field forces were essential, but the the standing corps of the border defence, *Obrona Potoczna* was too small to seal the southern boundary of Galicia and Western Podolia, especially after Poland's merger with Lithuania and incorporation of Eastern Podolia and the Kievan Land into the Polish Crown in 1569. And the levy, as the battle of Sokal again confirmed, was ineffective on its own. Sergiy Lep'yavko<sup>149</sup> and Aleksander Boldyrew<sup>150</sup> reveal that Polish war-planning *Lvov Rule* was introduced on 28 April 1520 by the Polish *Sejm* in Toruń (Thorn) learning the lessons of the Sokal defeat. It was the innovatory operational regulation of campaigning that established the border defense in three lines, the forefront scouts,

145 Plewczyński, *Wojny i wojskowość polska*, 42–43

146 Plewczyński, *Obertyn 1531*, 50–51, 169–218

147 Davies, *Warfare, State and Society*, 35

148 Davies, *Warfare, State and Society*, 37

149 Леп'явко, *Великий кордон Європи*, Ч. 4

150 Boldyrew, "Pochody wojenne polskich wojsk zaciężnych," 24

mobile units against the minor Crimean parties in the middle and the main body of the permanent corps deep in the rear. The Polish and Lithuanian forces needed a tactic to operate in the vast territory almost without the stationary fortification and they adopted the wagon-camp tactic and Old Polish array as imperative. The permanent corps, with its handgun infantry, field artillery and wagon-camp, together with the emergency gentry levy of the regions in peril was capable of engaging a large Crimean force in case of a bigger invasion.

Robert Frost considers that the Polish operational arrangement to leave the borderlands to their doom and fall back to protect the inner provinces was the smarter solution than the hypothetical system of the bastion-style fortifications in the borderlands that the Commonwealth abstained from creating.<sup>151</sup> This conclusion requires a comparative estimation. Why were the defensive clusters of fortresses established in Royal Hungary against a similar enemy, the Ottomans with their mostly cavalry armies and frontier raiders?<sup>152</sup> And why were the chain of fortresses connected by the defensive lines implemented along the Muscovite frontier against the same enemy, the Crimeans? It seems the Commonwealth's operational plan was not an elaborated solution but dictated by the outcome of fighting events similar to the Sokal debacle of 1519. In other words, the Commonwealth was pressed into the operational plan of the *Lvov Rule* by the Crimean military superiority. And maybe the Commonwealth simply did not care about the frontier territories due to their social specificity. If Galicia, Western Volhynia and Western Podolia in Poland and Eastern Volhynia in Lithuania had the numerous *szlachta* it was virtually absent in Eastern Podolia and the Kievan Land. The Republic of Nobles was obliged to protect its noble fellows but could have abandoned the people of a lower sort. In the former provinces, the *szlachta* composed the levy for self-defence, in the latter provinces the levy was absent. The Commonwealth delegated the defense of Eastern Podolia and the Kievan Land to the forces of colonizing magnates and the local militia.

Sergiy Lep'yavko sees the consequences of the battle of Sokal and *Lvov Rule* as the historical window of opportunities for the Dnieper Cossackdom<sup>153</sup> because the rising strata of the Cossacks composed the bulk of both sets of troops, the magnate bands and militia. It also composed the royal register that garrisoned royal castles. The boundaries between the categories were absent and all of them smoothly moved from the mercenary service to banditry in the

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151 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 26

152 Palffy, "Un Penseur Militaire Alsacien," 50, 53

153 Леп'явко, *Великий кордон Європи*, Ч. 4

steppes to initiative raiding of the Tatar and Ottoman neighbors to rioting against the Polish-Lithuanian frontier magnates. Ukrainian “cossackized burghers and peasants” amply fed the Cossack community with zealous recruits.<sup>154</sup> In this marginal social-military pocket, the community of Cossackdom had consolidated and the self-consciousness of the Ukrainian nation emerged. The Polish-Lithuanian royal authorities facilitated the consolidation of the Cossack strata by hiring it for their ventures in Muscovy, wars against Sweden in the Eastern Baltic and the Ottoman Empire in Moldavia. Soon the Cossack militia became a warrior corporation with its own social, religious and national objectives. Brian Davies states that “the idea of a Ruthenian nation rooted in the Orthodox faith and protected by a free Cossack knighthood.”<sup>155</sup> It integrated the Cossacks, peasants, townsfolk and petty nobles of the Commonwealth’s central Ukrainian lands into a proto-nation during the 17<sup>th</sup> century. The importance of the Dnieper Cossackdom for the coagulation of the Ukrainian nation supports the thesis of the military causation of the formation of modern nations. But in this case, it happened not via a habitual bureaucratic erasure of the provincial diversity but by the militant ethnic consolidation.

Boldyrew and his co-author Karol Łopatecki explain that two major “meanders of the Polish Military Revolution” followed the defeat of Sokal. Creating “a unified, in terms of weaponry, light cavalry[...] in the 1540s and 50s,” capable of engaging the Tatars with bow-shooting and maneuver combat was the first reform.<sup>156</sup> And “the internal standardization of cavalry units” into the armored lance *hussaria* and light bow-shooting cavalry during the same period was the second. Boldyrew and Łopatecki emphasize that “neither commanders-in-chief nor political and governmental factors [...] played a key role in the tactical innovation [but] mid-level commanders.”<sup>157</sup> Boldyrew and Łopatecki advocate a Polish military revolution “from beneath,” in a way allegedly different from the Dutch and Swedish form on the one hand and the Muscovite on the other. The result was of a military that was efficient but politically perilous in nature, the battlefield-perfect troops based on the expertise of the gentry soldiers and magnate commanders that became the social compound where political mutiny fermented. Historians don’t look for the potential of the famous Polish militant magnate-*szlachta* confederations that opposed the royal authority or *Sejm*’s ma-

154 Plokhy, *The Cossacks and Religion*, 33

155 Davies, *Warfare, State and Society*, 99

156 Boldyrew and Łopatecki, “Polish Way,” 686

157 Łopatecki and Boldyrew, “Meanders of the Polish Military Revolution,” 466

jority in this specific state-private partnership which became the Polish army of the 16<sup>th</sup> to 17<sup>th</sup> centuries. However, it nestled right there.

The Muscovite political system reacted to the shock of the stunning Crimean fighting capability in the first decades of the 16th century in a completely different way. On 28 July to 12 August 1521, the Muscovite duty cavalry corps was destroyed at the river Oka crossings near the town of Kolomna (Table 1, Entry No 12). The joint Crimean and Kazan armies advanced on Moscow and devastated the vicinity of the city. Russian historian Vladimir Zagorovsky considers that the Muscovite strategy to prevent the Crimeans from raiding the Muscovite heartland by maneuvering the cavalry along the Oka was at fault.<sup>158</sup> The Crimean forces were much faster than the Muscovite cavalry which was distributed to a few divisions to guard the most dangerous approaches. If the coming invasion was not detected beforehand and its point correctly predicted, the separated divisions were doomed and Moscow was endangered. It was clear that the Oka's bank must have been strengthened. The construction of the stationary defensive line started along it in the aftermath of the Muscovite debacle at Kolomna in 1521. The chain of formidable fortresses became its backbone. The ranges between them were protected with earth-timber forts at the key locations and barriers denying the Oka's crossing to the Crimean cavalry. The construction of the defensive line along the Oka required three new major competencies from the Muscovite government. They were the large-scale mobilization of men and resources for the building works, learning of the terrain, engineering and weaponry expertise, and establishment of the infantry and artillery to defend the line. It was a conjunction of military reforms, administrative development and resource mobilization. This Muscovite line did not receive proper attention from the scholars studying the military revolution in Russia. Vitaly Pensky<sup>159</sup> and Richard Hellie<sup>160</sup> describe the Oka bank as the terrain of the semi-standing cavalry's deployment. Marshall Poe does not pay his attention to it in his two well-known essays on the military revolution in Russia<sup>161</sup> although the prime focus of his narrative is on the Muscovite bureaucratic autocracy to which the tremendous venture of the defensive lines' construction is likely attributed.

Carol B. Stevens linked two important innovations to the Muscovite fortified

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158 Загоровский, *История вхождения центрального Черноземья*,

159 Пенской, *Великая огнестрельная революция*, 321

160 Hellie, *Enserfment and the Military Change*, 174–75

161 Poe, "The Consequences of the Military Revolution;" Poe, "The Military Revolution, Administrative Development."

line along the Oka: technical, through the introduction of firearms, and tactical, through the adoption of the wagon-camp array. Besides the deployment of the central cavalry army over there, the government hired the free local men and marginals adept with firearms to garrison the border fortifications and patrol the frontier. It was the practice that truly revolutionized the Muscovite warfare<sup>162</sup> because the Muscovite gunpowder army was brought up from the governmental taming and enlisting of the frontier social groups that were self-minded but professed the firearms. Stevens emphasizes that the Muscovite steppe defense was the “centrally organized effort,” the reason why it was “increasingly efficient” in comparison with the Polish-Lithuanian steppe defense as laid out by the *Lvov Rules*.<sup>163</sup> Brian Davies establishes his concept of Muscovy’s imperial development on the construction of the defensive lines in the 17<sup>th</sup> century, first of all, Belgorod *Cherta*, but does not provide much research on its early forerunner, the Oka’s *Bereg*. However, it is reasonable to suppose that it was the enterprise of the *Bereg*’s construction and defense, between other pages of history, where the “Muscovite state had already developed three powerful instruments for resource mobilization and social control” by the time to begin its biggest venture of the sort, the Belgorod *Cherta* in the 1630s. They are “a complex hierarchy of state service obligations [...]; this liturgical regime of compulsory state service,” central bureaucratization and effective local administration.<sup>164</sup> And forth, self-administration of the local communities allowed the low-level initiative especially important for colonization and expansion, but always under strict central supervision.<sup>165</sup>

It seems that two successful Crimean ventures, in Polish and Lithuanian Volhynia in 1519 and at the Oka and Moscow in 1521, created the military situation that determined the position of the private military initiative and central military control in Poland and Muscovy. Together with other events, they dictated the loose political constitution of Poland and rigid political constitution of Muscovy. They also paved the special path for the military revolution’s impact on the socio-political affairs in Eastern Europe. If in North-Western and North-Central Europe the military innovations emerged mainly in the central armies from which they influenced the political center of the states, in Eastern Europe they emerged in the frontier and influenced the political center through peripheral

162 Stevens, *Russia’s Wars of Emergence*, 74–75

163 Stevens, *Russia’s Wars of Emergence*, 46–47

164 Davies, *State Power and Community in Early Modern Russia*, 8–9

165 Davies, *State Power and Community in Early Modern Russia*, 28



warfare. Not many scholars account for this East-European particularity, Géza Pálffy<sup>166</sup> and Gabor Agoston<sup>167</sup> track it for the Hapsburgs and Ottomans, and Brian Davies emphasizes it for Muscovy.<sup>168</sup> The discourse on the Polish-Lithuanian Commonwealth is still gravitating toward the study of the *Sejm*'s affluent debates and magnate polemic opuses. However, when we study the military revolution in the Polish-Lithuanian Commonwealth we have to be very careful with the unitary notion "Polish-Lithuanian," because in such a complicated matter as military revolution the separate Lithuanian and Prussian, emerging Ukrainian and subtle Belarussian versions existed. And the Polish center substantially differed from the frontier. The Polish-Lithuanian military revolution was not so integral behind the Polish central *façade* as many historians present, vice versa it was critically disintegrated. The difference between the central and peripheral emergence of the military innovations could have been important because it was much harder for the peripheral impacts to transform the central mainstay of the state than for the central mutations to diffuse into the porous periphery. The peripheral origin of the military innovations had a mightier potential for political and social conflicts.

It was the frontier affairs and especially frontier warfare from where the heaviest national crisis befell Muscovy in the first decades and the Polish-Lithuanian Commonwealth in the middle of the 17<sup>th</sup> century. The crisis came to both realms from the Ukraine, a vast common Polish-Lithuanian-Muscovite frontier from the lower Volga to the lower Danube. In brief, it could be denoted as the chain of the upheavals during the 17<sup>th</sup> century, from the Muscovite storm of the tsar-impostors and the "peasant war" of Ivan Bolotnikov to the Ukrainian "national revolution" of Bohdan Khmelnytsky in the Commonwealth. The frontier communities and bands "took advantage of the era of political instability in order to transform the central areas of the neighboring states, on a short-term basis, into structures akin to markets of violence."<sup>169</sup> Muscovy was able to get through this crisis but the Commonwealth was not. It was an important species of the East-European stage of civil war that it unfolded as a conflict primarily not between the broader society and political regime or different so-

166 See Pálffy, "The Habsburg Defence System in Hungary;" Pálffy, "Un Penseur Militaire Alsacien."

167 Ágoston, "Defending and Administering the Frontier;" Ágoston, "Ottoman Conquest and the Ottoman Military Frontier."

168 Davies, *State Power and Community in Early Modern Russia*; Davies, *Warfare, State and Society*.

169 Bömelburg, "Introduction and Commentary," 183–84

cial groups and political institutions, but as the conflict between the center and frontier wherein the new aggressive social strata and ethnic groups, political and military structures were packed. Remarkably, this crisis is of low interest to scholars of the military revolution but it was the centerpiece of Marxist studies on the Early Modern transformation of Muscovy and Polish-Lithuanian Commonwealth, that is nowadays ignored. Studying the stage of civil war in the cycle of the military and socio-political transformation of Eastern Europe requires resurrecting their rich narratives.

*Firearms shape societies for the longue durée.*

Firearms were presented in Eastern Europe in the 15<sup>th</sup> century<sup>170</sup> and are discernible in most of the military events that are addressed in Table 1. In some military events, their absence was no less vital than their presence in others, for example, the Polish and Muscovite inability to deploy firearms in the battles of Sokal in 1519 and Kolomna in 1521, respectively, allowed the decimation of the Polish levy and Muscovite cavalry by Crimean bow-shooting. The firearms helped, but only by helping Muscovy subjugate the Novgorodian Republic and Kazan Khanate. But it was the superior Muscovite mobilization, campaign planning and increasing capability of the traditional forces that determined the outcome of both conflicts. When the Polish levy host advanced on Moldavia and the Ottoman onshore possessions at the port-fortresses of Akkerman and Chilia in 1497, the numerous mercenary infantry and large artillery train accompanied it.<sup>171</sup> The infantry contained 60 percent of the men equipped with the *rucznice*, the early type of the soon to be widespread *arquebus*, with a handy butt and S-shaped ignition lock.<sup>172</sup> The artillery park included 40 big and medium and 100 small guns of different types and functions, including wall-crushing guns and field antipersonnel pieces as well as two giant bombards.<sup>173</sup> However, when the Polish host was slain in the Kozmin Forest by the Moldavian court troops and peasant militia with the assistance of the Crimean and Ottoman units, the

170 See latest accounts on the proliferation of firearms in Eastern Europe, Kazakou, "Gunpowder Revolution in the East of Europe;" and Пенской, *Великая огнестрельная революция*; and national studies on Poland, Szymczak, *Początki broni palnej*; and Muscovy, Пенской, *От лука к мушкету*.

171 See Чучко, "Оборона Сучави."

172 Grabarczyk, "Firearms in Equipment of the Mercenary Troops," 53–54, 56; Grabarczyk, *Ręczna broń palna*, 35–36; Szymczak, *Początki broni palnej*, 42–45

173 Korzon, *Dzieje wojen i wojskowości w Polsce*, 196

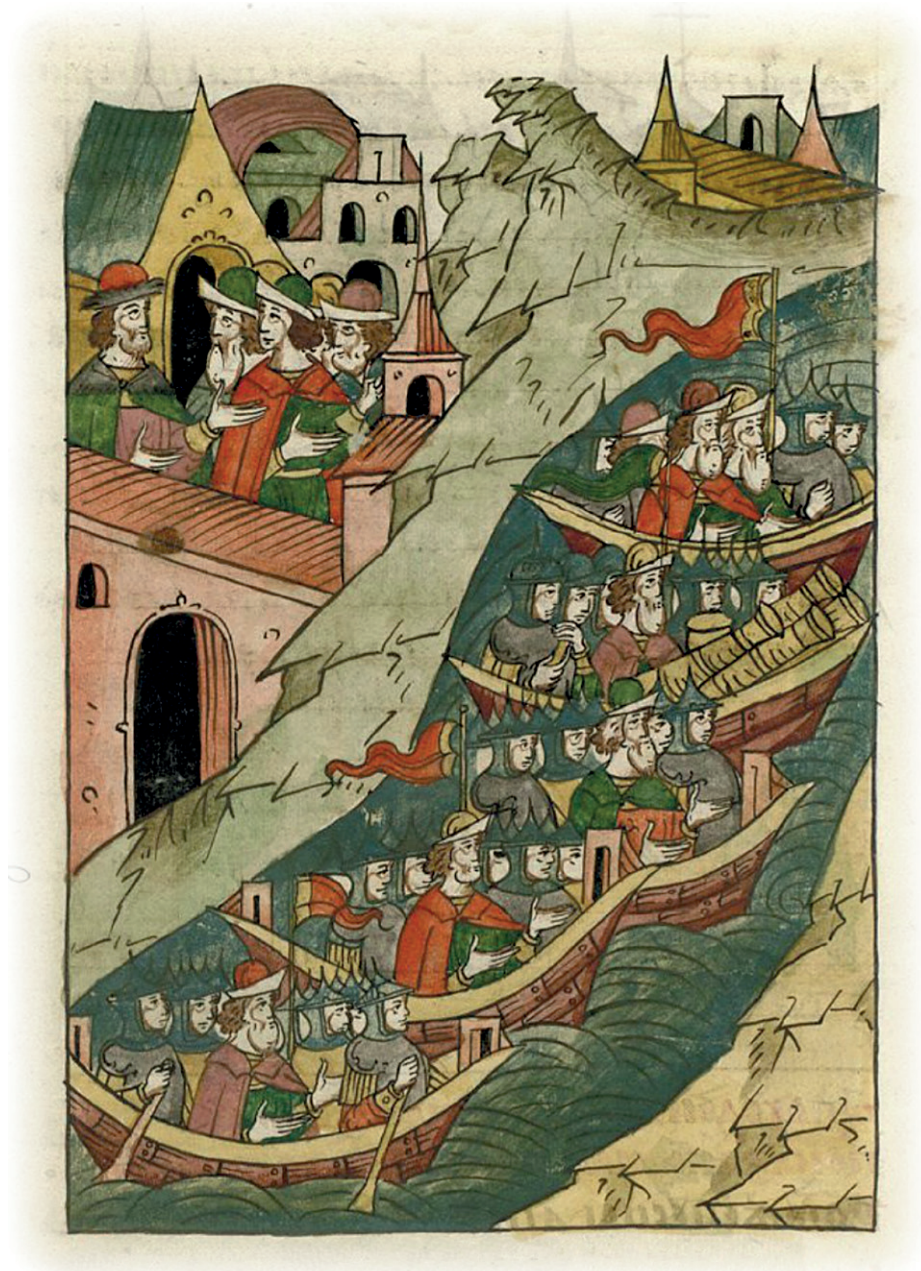


Fig. 6 and 7. Coming of the Muscovite siege artillery. The river-born guns that were both shipped for the construction of the land batteries and installed onboard for the deck-to-shore fire saved Muscovite amphibious infantry from the total annihilation by





the Tatar cavalry sortie during the Muscovite siege of Kazan in 1506. *The Russian Illustrated Anthological Chronicle of the Sixteenth Century, The Shumilov Volume*, Moscow. The Russian National Library, JI. 657 об. and JI. 661. Courtesy of Runivers, Russia.

light cavalry and infantry without firearms, the Polish formidable gunpowder weaponry were more a burdens than a help.<sup>174</sup> The total slaughter of the disorganized levy crowds was prevented by the valiant stance of the standing border defense corps and counter-charge of the Polish regular court cavalry.<sup>175</sup>

It was not beyond the East-European rulers to purchase and produce firearms in abundance and supply them to the troops, but the expertise of the employment of the troops with firearms was almost absent. In the 15<sup>th</sup> century, the view of the importance of firearms remained on the level that they might have brought occasional victories in a combat or two but they did not secure strategic superiority. It is not surprising that the breakthrough of firearms on the strategic scene happened in the Eastern Baltic, the most advanced region of Eastern Europe where the most technocratic and fanatic governments ruled over the theocratic Teutonic Order and Livonian Order. In 1500, when Lithuania was beaten unconscious by the Crimea and Moscow, it was the Livonian Order that moved ahead to maintain the strategic balance in Eastern Europe.

On 13 September 1502, the Livonian army fought to a standstill a superior Muscovite force at Lake Smolino on the border of Muscovite Pskov and Livonia (Table 1, Entry No 8). The battle of Smolino happened soon after three great Muscovite victories over the Lithuanian army with the Polish mercenary component, battles at the river Vedrosha on 14 July 1500 and Mstislavl on 4 November 1501, and the conquest of the Severa region (North-East of contemporary Ukraine) in May to August 1500. It followed the scandalous debacle of the Muscovite army in the battle of the river Seritsa on 27 August 1501 against the Livonians. The course and outcome of the Seritsa and Smolino battles became a grim disappointment to the Muscovite strategists. It demonstrated the Muscovite semi-standing territorial cavalry's fighting inefficiency in the face of the West- and Central-European tactical innovation of the "pike and shot" infantry array and its interaction with the heavy shock cavalry. The Muscovite cavalry's maneuver and bow-shooting superiority were not sufficient to rout the staunch enemy that was able to repel the strike by the use of firearms and pike and deliver deadly counter-attacks with armored lancers. It was the allied stance of the Livonian Order at Seritsa and Smolino and the capability of its mercenary army that saved Lithuania from complete collapse in 1500 to 1503. Tactically the battle of Smolino was not a Livonian landslide but was strategically a grievous setback for Muscovy. In the years of deadly Lithuanian weakness when the Lith-

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174 See Shirogorov, *War on the Eve of Nations*, 322–36

175 Plewczyński, *Wojny Jagiellonów*, VIII.3



uanian army almost did not exist, the best Muscovite forces were nailed to Livonia and partly destroyed there. The Muscovite design on Lithuania foreseeing its elimination and appropriation of all Lithuanian Rus was not accomplished.

The battle of Smolino demonstrated that in the period of fast, sharp and multi-directional military changes at the end of the 15<sup>th</sup> to the beginning of the 16<sup>th</sup> centuries, the Muscovite model of state-sponsored reforms was lagging behind the pace of innovations that were introduced by the mercenary-oriented military reforms in Western and Central Europe. "At the turn of the fifteenth century, the Muscovite court elite found itself in possession of forces quite different from and in some ways inferior to contemporary European armies," Marshal Poe declares. "At about the same time that Western courts were building large pike- and shoulder-armed infantry forces supported by artillery, the Muscovites continued to rely on lightly armed horse."<sup>176</sup> Besides the tactical awkwardness, the cavalry of the territorial companies that were built in Muscovy in the last third of the 15<sup>th</sup> century was turning out to be socially cumbersome. It was coagulating into the estate corporation sticking to a particular kind of warfighting of the large cavalry masses of bowmen and swordsmen. The Muscovite territorial cavalry and government joined in awkward tandem when the tactical development of the cavalry required the government to push and the government was politically over-dependent on the provincial service class to give that push. Instead of the West-European constant progress in weaponry and tactics, the Muscovite military development fell into stagnation demanding a political upheaval for the impulse to change.

In the narrative of Russian historian Yury Alekseev, the battle of Smolino called for a correction in Muscovite military development. The Muscovite cavalry and its tactics needed to be refreshed with the techniques of the gunpowder revolution. Alekseev does not come exactly to this conclusion,<sup>177</sup> however Vitaly Penskoy, referring to the "experience of the fighting against Livonians,"<sup>178</sup> and Richard Hellie<sup>179</sup> pointed out that it was exactly the case. The corps of handgunners, *pishchalniki* was established in 1508 in response to the Muscovite "defeat at the hands of Livonians... that was attributed to the Livonians' abundance of the firearms."<sup>180</sup> Michael Paul looks far ahead, "the first steps were being taken

176 Poe, "The Military Revolution, Administrative Development," 249

177 Алексеев, *Походы русских войск*, 419–25

178 Пенской, *Великая огнестрельная революция*, 304–305

179 Hellie, *Enserfment and the Military Change*, 156

180 Hellie, *Enserfment and the Military Change*, 156

which would lead to a modern infantry-based army in Russia.”<sup>181</sup> However, in the battle of Smolino, the Muscovites met not only the massed infantry with handguns but also the mercenary *landsknecht* pike column, something never seen before. It appeared very effective against the Muscovite cavalry charge. The Muscovites were also countered by the Order’s *wagenburg* with the field artillery as the defensive array, something that was widely known in Eastern Europe but had not been utilized against the Muscovite forces before. Why did the Muscovites adopt the infantry with handguns in a couple of years, adopt the wagon-camp with the field artillery in a couple of decades, and adopt the pike columns almost a couple of centuries later? From the point of view of the fighting equipment and technique, the pike columns were simplest to reproduce and the wagon-camp was simpler to reproduce than the troops of the handgunners, because both the former had more in common with the traditional Rus-Muscovite military and warfare than the latter.

The advocates of the Muscovites’ borrowing from the Livonian experience also do not explain why the Muscovite did not borrow the Swedish pattern of professional infantry with handguns that they had met a few years earlier, in their siege of Vyborg in 1495 and the Swedish amphibious assault on Ivangorod in 1496.<sup>182</sup> It is significant that the Muscovites started using the infantry with handguns not in field engagements, similar to the Livonians at Smolino, but in siege warfare. It is more probable that the Muscovite development of handheld firearms was organic, and took place in the economically and socially advanced Muscovite north-western towns, while it was enhanced by fighting against the Czech and Silesian mercenary infantry with handguns that the Muscovites met in numbers when they rushed into Lithuania after the annihilation of the Lithuanian army in the battle of the river Vedrosha.<sup>183</sup> The mercenaries managed to hold out most of the Lithuanian towns against the Muscovite offensive. The impression of their efficiency in fortress warfare was strong.

The need to reproduce the methods of the Swedish, German and Czech mercenary handgunners was absorbed by the Muscovites in their debacle at Kazan in 1506 when the Muscovite amphibious infantry dared to advance on the city without the support of the cavalry that lagged behind after marching overland.<sup>184</sup>

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181 Paul, “The Military Revolution in Russia,” 19

182 Shirogorov, “A True Beast of Land and Water,” 234, 242–43; Shirogorov, *War on the Eve of Nations*, 309–313

183 Shirogorov, *War on the Eve of Nations*, 352–60, 377–79

184 Котляров, “«Служащий царь» – Казанский хан Мухаммед-Амин,” 27–28

It was the first Muscovite venture when the artillery was organized as a separate command.<sup>185</sup> However, the artillery's capability did not bring victory. The Muscovite infantry was slaughtered by the Kazan cavalry sortie and only minor groups of it survived sheltering in their foothold camp under the barrage of the ships' guns. The Muscovite rulers hastily added together the impression taken from the Swedish, Livonian and Lithuanian infantries with the firearms and the availability of the skilled hanggunners in the Muscovite north-western towns. It is interesting that Mikhail "Misyur" Munekhin, the co-author of the Muscovite idea of *Translatio Imperii* which defines Moscow as a "Third Rome," was the official responsible for recruiting the first Muscovite handgunners in Pskov and probably their supply of firearms purchased in Livonia.<sup>186</sup> They were deployed in fortress warfare, at the Lithuanian stronghold of Western Rus, Smolensk.

On 16 May to 1 August 1514 (the active phase from the beginning of July), the Muscovites launched their assault on Smolensk, the third in two years (Table 1, Entry No 10). It seems that the walls of Smolensk were reconstructed according to the *gorodnya* design only partly and mostly remained in keeping with the outdated palisade, *tyñ* design. Vitaly Penskoï describes the siege as the showpiece of the Muscovite switch to firearms from formerly mainly cavalry armies.<sup>187</sup> The artillery became the intrinsic force of the Muscovite army and the infantry of handgunners was successfully introduced and tested in offensive warfare. The fall of Smolensk changed fortress war in Eastern Europe decisively. The artillery bombardment instead of the storm and starve-out became the main stratagem of fortress-taking. The size and diversity of the siege trains were steadily increasing. The complicated tactics of the artillery offensive on the town fortifications was born. It combined the action of wall-crushing guns, anti-personnel guns and bombards hitting the inner part of the fortress. The artillery offensive gained momentum in fortress wars in Eastern Europe.

However, three sieges of Smolensk in 1513 to 1514 and the close battle of Orsha in 1514, as well as the subsequent Polish-Lithuanian attack on Opochna in 1517 and Muscovite attack on Polotsk in 1518 also imposed another rule. The combination of the strong fortress garrison and artillery with the relief army became a fortress' rule of survival. Jeremy Black points out that "fortifications were no substitute for a field army. They could not win a war and in defence,

<sup>185</sup> Пенской, *От лука к мушкету*, 34

<sup>186</sup> Зимин, *Россия на пороге Нового Времени*, 359–60

<sup>187</sup> Пенской, *Великая огнестрельная революция*, 301, 305; Пенской и Пенская, "Смоленская осада 1514 года."

they depended on supporting forces.”<sup>188</sup> The fast strong relief army was a much more effective tool against the siege than any kind of fortification. In Eastern Europe, it could only be the cavalry army. This operational design of the fortress defense fueled the numerical ascendance of the cavalry over infantry in Eastern Europe. The composition of the Muscovite handgun infantry first tested in the taking of Smolensk had important consequences for the social and political development of Muscovy. It was the urban conscripted infantry that changed from the traditional medieval urban militia for two reasons. First, it was switched to the government’s salary and supply after its recruitment. And second, it was commanded by government-appointed leaders and not by the communal elders or elected chiefs, while its tactics, weaponry, organization, and objectives were determined by the Military Chancery.<sup>189</sup> We soon find a moment four decades later when the Muscovite handgun infantry became standing professionals but it always preserved its key property of a product of townsfolk origins. The Muscovite towns, with an all Muscovite autocratic reign in the mind of historians, never lost their military position. They kept it by supplying the personnel for the most technically advanced troops, the combat importance of which was steadily ascending.

The Poles and Lithuanians effectively used the infantry of handgunners in field warfare according to the tactical pattern that they found in the battle of Kletsk in 1506. It had been widely reproduced since the battle at Chocim (Hotin) in 1509.<sup>190</sup> However, the first Polish-Lithuanian infantry achievement in the fortress war only came two decades later. It seems the Poles and Lithuanians would not have surpassed the Kletsk pattern if they had not met another example employed against them. The Teutons were their teachers again in the last Polish-Teutonic war of 1519 to 1521. Similar to Vitaly Penskoï’s estimation of the Muscovite Smolensk campaigns of 1513 to 1514, Stanisław Herbst regards that war “as a breakthrough in the history of our military, as the Polish equivalent of what a bit earlier started to take place in Italy.”<sup>191</sup> This conflict, strangely named a *Reiterkrieg*, War of Horsemen, was dominated by the “great marches of thousands of the mercenary Polish, Czech and German infantry.”<sup>192</sup> The Ger-

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188 Black, *A Military Revolution?* 56

189 Широко́ров, Украинская война. Кн. 1, Схватка за Русь, 696–704

190 Spieralski, *Awanturny moldawskie*, 70–71; see study of other Polish military learning in the “Moldavian adventures” in this remarkable book.

191 Herbst, “Kampania jesienna 1520 r.,” 4; see also about this under-researched war in Korzon, *Dzieje wojen i wojskowosci w Polsce*, 168–77

192 Herbst, “Kampania jesienna 1520 r.,” 4

man and Czech infantries, which were contracted, turned out to be much more combat-effective than the Polish commissioned one.

It is a regret that historians one after another focus their attention on the events that presumably demonstrate some special ideological valiance, like the much chewed over battle of Orsha in 1514, instead of analyzing the events of high importance for military changes as Stanisław Herbst did. The low fighting capability of the Polish infantry in the *Reiterkrieg* moved the Polish leaders to build up their infantry mostly of contracted mercenaries with their main pool hired in the German-speaking regions of the realm, Royal Prussia and Silesia. The discussion to introduce in Poland the native infantry by conscription from broad peasantry came to nought, and the conscripted infantry from the peasantry of the royal domain that tried to campaign against Muscovy in the 1570s was a disappointment. It was abandoned. The Polish infantry remained mercenary and alien, based either on foreigners or the non-Polish subjects of Poland.

This recruiting choice had long-running social and political consequences. In the Polish-Lithuanian Commonwealth, only the towns of Royal Prussia preserved their military potential as the suppliers of mercenary handgunners of the German style and kept the political importance that was linked with the military potential. The Muscovite towns' representatives were important participants in the estate legislative and growing bureaucracy. At the same time, the proper Polish towns, as Maria Bogucka and Andrzej Janeczek show, were suppressed and reduced to total political negligence.<sup>193</sup> When the stage of civil war came, the Muscovite towns by concerted action saved the country's sovereignty from the *Smuta* and supported the political strength of the central government to implement a fiscal-military model including the elements of mercantilism. Contrary to this picture, the Polish towns' participation in the securing the outcome of the Polish civil war, *Potop*, was minor. The central government resurrected in the Polish-Lithuanian Commonwealth in the last third of the 17<sup>th</sup> century was weak and magnate-dependent. It was unable to direct the country on the fiscal-military path, and the Polish economy remained the quasi-colonial appendix of the West-European Baltic Trade.

<sup>193</sup> Bogucka, "Polish towns," 139, 147; Janeczek, "Town and Country in the Polish Commonwealth," 160, 169–71, 174



*Warfare switched the social mutation to stagnation.*

It was important that Crown *Hetman* Jan Amor Tarnowski, the ideologist of Early Modern Polish infantry warfare, took part in the *Reiterkrieg* and after it befriended the Teutonic High Master then Duke of Prussia Albrecht. Tarnowski's infantry experiments led to the first successful use of the Polish handgunners in the offensive fortress war. On 30 July to 29 August 1535, the Lithuanian and Polish forces sieged and took by storm the Muscovite fortress Starodub (Table 1, Entry No 13). Russian historian Mikhail Krom counterposes the Polish-Lithuanian siege of Starodub with the Muscovite siege of the Lithuanian fortress Mstislavl of similar architecture at the same end of July to the beginning of August of 1535. The Muscovite army applied forces similar to the Polish-Lithuanian army at Starodub and launched a similar combination of artillery bombardment and storm. It overran Mstislavl's downtown area but was unable to take its citadel. Krom states that the wall-crushing artillery of the Muscovites at Mstislavl and Poles-Lithuanians at Starodub were similarly low in effectiveness. After they had not achieved substantial destruction of the fortifications using artillery, the Muscovites dropped their siege and left Mstislavl. But the Poles switched to mining and achieved the breakthrough.<sup>194</sup> Krom as well as Polish historians Marek Plewczyński<sup>195</sup> and Leszek Podhorodecki<sup>196</sup> demonstrate that the Starodub campaign was an exemplar of the integration of the Western military knowledge with local fighting practice in Eastern Europe. Plewczyński and Podhorodecki relate that Tarnowski had beforehand hired two Italian engineers skilled in mining, and found the commander who knew how to integrate the blowing-up of the ramparts with its storming, Andrew Herbut, a Pole and former mercenary captain in France and Germany.

The course of the storming of Starodub displayed Tarnowski's skillful use of the wagon-camp, his favorite field deployment, as well as the infantry, the troops of his special care. The gunpowder technique either the artillery or mining seemed of being lesser important. However, the legend of Starodub's taking with the mine blast attracted the attention of the generals and military engineers in Eastern Europe to the use of this mining technique. It was utilized in the region in combination with the wall-crushing artillery up to the end of the 17<sup>th</sup> century. The outcome of the Starodub siege reminded the fortification architects of the importance of the outer defenses to deny the assailants immediate access

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194 Кром, *Стародубская война*, Ч. 4

195 Plewczyński, *Wojny i wojskowość polska*, 410–20

196 Podhorodecki, *Slawni hetmani Rzeczypospolitej*, 50

to the citadel. Starodub's outer fortifications were burned down by the Lithuanian raiding party a year before, in 1534, and were not reconstructed by the time of the siege of 1535. Probably the cavalry raiders managed to burn them down because they were of simple lumber construction, *tyn*, similar to Kazan's outer defenses burned by the Muscovites in 1530. The fortresses' outer defenses must have been substantially strengthened to prevent this kind of misfortune from happening. It was also important to harden the fortifications against the mining and provide them with low loopholes just over the foot of the wall to decimate the storming columns by ball and grape shots. All three challengers were met with a new kind of fortification construction, *tarasa* in the Russian siege lexicon, possibly after Italian *terrazza* (see comment below).

On the besiegers' side, the taking of Starodub emphasized the importance of the well-protected storm array. Tarnowski is often credited for his wagon-camp array in the battle of Obertyn in 1531, however, his wagon-camp at Starodub deserves more attention. Tarnowski's solution to advancing on the fortress with the wagon-camp was not exclusive, as the Muscovite generals had attempted it on Kazan in 1524 using the wagon-camp array. Tarnowski's tactic again demonstrated how the wagon-camp was the regional specie of the field formation of the infantry with handguns similar to the West-European variation of the pike-and-shot columns. Aleksander Bołdyrew does not mention the technique of the infantry pike push in the storming of Starodub in 1535, however, he observes its use by the Polish infantry under Tarnowski in the campaigns against Moldavia in 1531 and 1538.<sup>197</sup> It is reasonable to imagine that the Polish success against the Muscovite sorties from Starodub was achieved by Tarniowsky's masterly combination of the wagon-camp using pike-and-shot tactics. Bołdyrew concludes that "the specific gunpowder revolution that took place in the infantry, in the scale of the entire [Polish] army, was probably a marginal phenomenon"<sup>198</sup> due to the numerical, tactical and social predominance of the cavalry. He does not address the Starodub campaign in his conclusion, although the gunpowder technique and infantry action were decisive at Starodub. Vitaly Penskoï looks at Tarnowski's combination of artillery assault and underground mining at Starodub as the property of the gunpowder revolution, and its influence on siege tactics.<sup>199</sup>

Penskoï considers that the advanced gunpowder tactics of Tarnowski crashed

197 Bołdyrew, "The Changes of the Offensive Armament," 222

198 Bołdyrew, "Przemiany uzbrojenia wojska polskiego," 127

199 Пенской, *Великая огнестрельная революция*, 316

the backward Muscovite fortifications deprived of important frontal outer defenses. He concludes that the Muscovite military architects learned nothing from the fall of Starodub and the Muscovite fortresses remained vulnerable due to their neglect of the bastion design in the second half of the 16<sup>th</sup> century and later.<sup>200</sup> Explaining the siege of Starodub according to Pavel Rappoport's and Nikolay Kradin's view it is striking that the weight of the besiegers' fire shifted from the upper part of the walls on which it was focused centuries before,<sup>201</sup> to the foot of the walls. It was the foot of the walls where Tarnowski made the breach for the storm with his guns and mines, the traditional scaling over the walls was the second technique for him. The learning of the lessons of the fall of Starodub substantially pushed ahead East-European fortress architecture. The change of the wooden fortifications to stone was not the prime solution. Rappoport and Kradin agree about the difference between the *gorodnya* style of fortifications that dominated before the fall of Starodub and *tarasa* style that was implemented after it. The *gorodnya* wall was the chain of wooden frames filled with clay and pebbles, while *tarasa* was the uninterrupted construction of outer and inner walls connected by intersections and also filled with clay and pebbles. It was much more difficult to rupture the latter kind of construction by wall-crushing artillery or mine blast than the former kind that was vulnerable in the frames' conjunctions.

Additional improvements to the *tarasa* wall construction included the hole sectors in the wall ranges while the *gorodnya* sections were filled with clay and pebbles entirely. The hole sectors were used to arrange the low loopholes for the guns and most of the defensive gunfire was moved from the top of the walls to their foot cancelling out the unaffected zones near the walls.<sup>202</sup> The fortifications of the *tarasa* design also became the new solution for the frontal outer defenses of the East-European fortresses instead of weak lumber *tyñ*. All in all, it seems the *tarasa* style was an improvement on the *gorodnya* wooden fortifications similar to the Dutch-style improvement of the *trace italienne* in Western Europe<sup>203</sup> or the famous Hungarian *palanka* design.<sup>204</sup> Another effective solution against the gunpowder-charged offensive was found in the change of the func-

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200 Пенской, *Великая огнестрельная революция*, 316–17

201 Раппопорт, *Очерки по истории военного зодчества*, 159–61

202 Крадин, *Русское деревянное оборонное зодчество*, Ч. 1; Раппопорт, *Очерки по истории военного зодчества*, 172–73

203 Hart, *The Dutch Wars of Independence*, 65–66

204 Stein, *Guarding the Frontier*, 48–49

tions of the fortress towers. Before the Starodub siege, the prime function of the towers was to support the defenders on the wall-top between them. After it the towers were mowed ahead, in front of the wall line, to provide flanking fire along the walls' foot.<sup>205</sup> The siege of Starodub stands as the event with the most architectural, engineering, weaponry and tactical influence on siege warfare and fortress architecture in Eastern Europe. Its lessons diffused fast, as only 15 years later at Kazan the Muscovites met most of them which had been well-learned.

Mikhail Krom describes the discussion on military matters, strategical, organizational, and technical, in letters between Tarnowski and two other prominent military thinkers of the time in Eastern Europe, namely the duke of Prussia Albrecht and Lithuanian chancellor Olbracht Gasztold on the eve of the Starodub campaign. It seems the Starodub War was a fighting part of the wider military and political changes in Poland and Lithuania. Robert Frost,<sup>206</sup> Vitaly Penskoj,<sup>207</sup> Belarusian historian Genadz Saganovich<sup>208</sup> and Lithuanian historian Edvardas Gudavičius<sup>209</sup> focus their respective attention on the Lithuanian *Statutes* of 1529, which was the first detailed Lithuanian regulation of the gentry's military service. Its mobilization in Lithuania became as rigorous as the mobilization of the territorial cavalry in Muscovy. The *Statutes* also determined the landowning nobility's obligation to field the retinue according to the number of peasant households in their estates and requirements for the weaponry and equipment of the gentry and its retainers.

Robert Frost<sup>210</sup> and Belarusian historian Vladimir Picheta<sup>211</sup> also point out the reform of the Lithuanian grand prince's domain, parallel to the nationwide introduction of the *Statutes*. The reform sharply changed the domain's structure, enserfed its peasants and transformed them into compulsory labor in the market-oriented manorial farms.<sup>212</sup> The reform quadrupled the domain's revenue<sup>213</sup> and made the obligation of its administrators onsite much clearer and stricter. Vitaly Penskoj reveals that the infantry with spears and handguns, and caval-

205 Раппопорт, *Очерки по истории военного зодчества*, 165

206 Frost, *The Making of the Polish-Lithuanian Union*, 301–303

207 Пенской, *Великая огнестрельная революция*, 128–29

208 Саганович, *Вайска Вялікага княства Літоўскага*, 12–13, 28

209 Гудавичюс, *История Литвы*, 358–59, 422

210 Frost, *The Making of the Polish-Lithuanian Union*, 425–32

211 Пичета, *Белоруссия и Литва XV-XVI вв.*, 161–62

212 Пичета, *Белоруссия и Литва XV-XVI вв.*, 174, 182

213 Frost, *The Making of the Polish-Lithuanian Union*, 427–28

ry of the Polish type that the administrators of the royal domain estates were obliged to provide became a Lithuanian step to a national standing army.<sup>214</sup> The introduction of the *Statutes* and domain reform prepared the effective participation of the Lithuanian army in the Starodub campaign and larger campaigning in the last third of the 16<sup>th</sup> century. However, for all their difference, the new regulation of the gentry's mobilization and rearrangement of the grand prince's domain looked similar to the Muscovite process that Richard Hellie neatly defines as the "enserfment and military change."

Lithuanian scholar Gediminas Lesmaitis demonstrates that the needs of the Starodub War initiated the nationwide fiscal reform in Lithuania. Lesmaitis, referring partly to the data used by Polish historian Ludwik Kolankowski, shows that the harsher fiscal arrangement afforded to employ a few thousand of the Polish mercenaries and local hirelings in the standing units.<sup>215</sup> Kolankowski agrees with the conclusion of the Muscovite Chronicles that the mining, unsought before in Muscovy, was the main reason for the fall of Starodub.<sup>216</sup> Lesmaitis comes to different and broader conclusions. He argues that the Starodub War pushed Lithuania into a substantial rearrangement of its army and political constitution. Lesmaitis connects fiscal reform with the emergence of the native professional army. Since the Starodub War, the employment of the professional army was not extraordinary but ordinary with the function of the round-the-year service contrary to the seasonal service of the levy. Another important step was the naturalization of the Lithuanian professional forces. If before the Starodub War the Polish contracted mercenary corps was a self-contained part of the Lithuanian army often out of Lithuanian control, since then the Polish mercenaries became commissioned and more closely integrated into the Lithuanian army. The importance of the Polish mercenaries was further obscured by the Lithuanian hirelings.<sup>217</sup> In Lesmaitis's interpretation, Tarnowski's mining and storm techniques at Starodub were minor details in the major reform of the Lithuanian army that brought Lithuania victory in the Starodub War.

Aleksander Bołdyrew discusses the aftermath of the siege of Starodub to argue for his model of the Polish military revolution. Bołdyrew considers that it gained advanced weaponry and made tactical achievements but it was devoid of political transformation. The retreat of the Polish army after the spectacular

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214 Пенской, *Великая огнестрельная революция*, 128

215 Lesmaitis, *Wojsko zaciężne w Wielkim Księstwie Litewskim*, 136–37, 167

216 Kolankowski, *Zygmunt August*, 143

217 Lesmaitis, *Wojsko zaciężne w Wielkim Księstwie Litewskim*, 51–52, 67–68



taking of Starodub due to the scarcity of funds for the soldiers' salaries demonstrated the Polish failure to find a fiscal-administrative solution to settle war spending. Boldyrew sees the reason for the failure in the specific political constitution of the Polish Republic of Nobles and the inability of the weak royal power and bureaucracy to take over the Polish government from the grab of the nobility.<sup>218</sup> Later we address this typical look at the Polish political regime. Boldyrew condemns Poland, although the Starodub War was Lithuania's enterprise and the Polish corps of Tarnowski was a mercenary part of the Lithuanian army. The Lithuanian political regime before the Starodub War was fluid, and the Starodub War secured the changes that had accumulated during a couple of preceding decades, most of which were either borrowed from Poland or produced by the Polonophil magnates. However, Lithuania adopted from Poland not a sterile political constitution but a live arrangement in a process of change that also tended to stagnation.

The Starodub War and other campaigns of the first third of the 16<sup>th</sup> century revealed the growth of the military importance of the broad Polish gentry, *szlachta*, in three dimensions. The first dimension, due to the recruitment of the native Polish commissioned cavalry exclusively from *szlachta* and the appointment to all command positions in the commissioned infantry from *szlachta*, the *szlachta* strengthened its position as the monopolistic agent responsible for coercion and violence. The second dimension, due to the *szlachta*'s monopoly in the decision-making regarding taxes and allocation of the state revenues in the *Sejm*, the *szlachta* secured the position to control the build-up of standing forces, like the corps of the southern border defense, and emergency professional forces for larger campaigns, like Jan Tarnowski's troops for the campaigns against Moldavia and Muscovy. In 1535, the *Sejm* in Piotrków declared the immediate revision of all royal property and spending of the treasury and established the commission to supervise that property. It managed to triple the domain's revenue between 1533 to 1569.<sup>219</sup> Most of the revenue increase was spent to support the professional forces. The *szlachta*'s revision of the royal domain became an important source of the Polish mobilization of resources to war outside of civil society but under its control. The third dimension of the growing importance of the *szlachta* consisted in the arrangement according to which the magnates and middle *szlachta* that served as the captains and subalterns in the professional commissioned cavalry and infantry bore a substantial share of the mobilization

218 Boldyrew, "Przemiany uzbrojenia wojska polskiego," 130

219 Boroda, and Guzowski, "From King's Finance to Public Finance," 464–65

and campaign cost in return for social esteem, treasury compensation and war spoils. The *szlachta*'s private military spending are an important example of the mobilization of the society's resources for war outside of royal power.

The mobilization of the resources for war could have been more diversified than the "classic" absolutist vertical of the compulsion or unwilling bargaining under absolutist pressure. This was the Polish way until the Partitions of Poland at the end of the 18<sup>th</sup> century. It was effective at last during the 17<sup>th</sup> century. Marshall Poe finds two important social results of the military revolution. The first of them was the transformation of former "cavalry nobility" into officers of the new model armies and royal administrators. The establishment of the estate representative institutions to vote for the increasing tax collection was the second one.<sup>220</sup> Both of them were achieved through the Polish military-social transformation but in a roundabout way and secured as such by the Starodub War. The Polish and Lithuanian legislation concurrent to the Starodub War supports the observation that some of the military events worked as the impulse to political mutation and some of them worked to deny the further changes. The stagnation of the political structures within the frame of the mobilization and organization of forces became perilous in the epoch of civil wars, ongoing in the 17<sup>th</sup> century when societies were changing in a fast, strong and vicious manner. The social paradigm and political regime were ripped apart and if the military patterns were on the side of the outdated political regime they were crushed and wasted away together with it. Or if society had been unable to do that, society itself would have perished. It is the property of the military revolution that the competitive international nature of warfare rarely afforded stagnation.

### *Military changes initiated an uneven and combined development.*

The next impulse of transformation came to Eastern Europe from where it was least expected. The nomadic societies are normally considered the victims of the military revolution, casualties of the military changes of the settled nations in the Early Modern Period that sharply turned the table of fighting superiority to the advantage of the latter. The borrowing of some settled armies' innovations like gunpowder weapons is the only credit that the nomads deserve.<sup>221</sup> Stephen Morillo, Jeremy Black, and Paul Lococo guess in their textbook: "the synthesis of cannon and cavalry was based in social and political structures that

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220 Poe, "The Consequences of the Military Revolution," 605

221 Chase, *Firearms*, 203



Fig. 8. The strategic chance for the Cossackdom. The Crimean landslide over the combined Polish-Lithuanian army at Sokal in 1519 opened the Commonwealth's Ukraine for the deep manoeuvre warfare. The new strategic situation changed the Polish army, especially its cavalry, and stipulated the rise of the commonfolk Cossack militia. *The Russian Illustrated Anthological Chronicle of the Sixteenth Century, The Shumilov Volume*, Moscow. The Russian National Library, Л. 814 о6. Courtesy of Runivers, Russia.

not only were traditional but remained largely untransformed by the military synthesis.”<sup>222</sup> The nomadic military changes look in the historiography like a double dead-end of the military revolution, because nomads were able neither to generate the military change nor use the borrowed military changes for their own socio-political transformation. No doubt, the nomads thought in a completely different way on 30 to 31 July 1541 when the huge Crimean army came at the fords over the river Oka, on the bank opposite the Muscovite defensive line, bombarded it and dashed over it (Table 1, Entry No 14).

The battle of the Rostislavl fords had been preceded and was followed by the military reforms in the Crimean Khanate accomplished by Khan Sahib Geray. They had three points, of troop mobilization, deployment and fighting techniques. According to the Turco-Mongolian pattern, the Crimean army consisted of small standing court troops, *nökers*, and large nomadic militia. An imperial Russian historian Vasily Smirnov and prominent Turkish scholar Halil Inalcik are the most important authors who accentuate Sahib Geray’s restriction on nomadism<sup>223</sup> that transformed the Crimean nomadic society into a military society of committed raiders.<sup>224</sup> The khan promoted the sedentary order of life, granting land allotments to the minor units of the Tatar tribes, *aul*, that became a military settlement, encouraging tillage by slaves. The *auls* switched the military preparation of their males from the nomadic routine to purposeful training and incessant campaigning. Crimean historian Ahmet-khan Sheykhumerov does not say that the settling of the nomadic militia changed the nature of the Crimean army from a federation of the nomadic tribes to the order of the military units-settlements. But he remarks that it fuelled Crimean aggression in Eastern and Central Europe, Caucasus, Transcaucasia and Northern Iran at the turn of the 16<sup>th</sup> to 17<sup>th</sup> centuries.<sup>225</sup>

Following Vasily Smirnov, Halil Inalcik analyses how the different military reforms of Sahib Geray influenced the social structure and political regime of the khanate, the kind of analysis that is fundamental to the concept of the military revolution. Inalcik’s studies on the proliferation of firearms in the Ottoman Empire and its impact on Ottoman society and administration<sup>226</sup> significantly

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222 Morillo, Black, and Lococo, *War in World History* Vol. 2, 324

223 Смирнов, *Крымское ханство под верховенством Османской порты*, 312

224 Inalcik, “The Khan and the Tribal Aristocracy,” 462–63

225 Шейхумеров, “Крымское искусство,” 73

226 Inalcik, “Military and Fiscal Transformation;” Inalcik, “The Socio-Political Effects of the Diffusion of Fire-Arms.”



supplement his analysis of Sahib Geray's reforms. Inalcik describes that the khan's standing army was built on the Ottoman janissaries that were assigned to him, and reinforced with the local handgunners, *tüfenkji*, of the slave, *kul*, and hireling, *tat*, origin. The 1,000-man standing infantry of Sahib Geray was equipped with 200 fighting wagons and 60 light cannons to reproduce the Ottoman tactic of the wagon-camp, *tabur*.<sup>227</sup> Canadian historian Victor Ostapchuk finds in Sahib Geray's reforms not only "the advantages over cavalry that fire by field-cannons and muskets gave,"<sup>228</sup> but also "a vicious man-to-man sabre battle" as the technique of the new Crimean standing cavalry that it successfully used in combination with the gunpowder troops and wagon-camp against the Nogay mounted bowmen.<sup>229</sup> Inalcik and Ostapchuk look at the new kinds of Crimean troops as the immediate reasons for Sahib Geray victories. The khan's design to break the Muscovite's defense at Rostislavl on the river Oka's bank in 1541 was based on the massive canon and handgun fire delivered from the Crimean wagon-camp.

Vitaly Penskoï depicts the Crimean wagon-camp as the array where the fire-arms and standing troops were concentrated and (it is a variation of Penskoï's view) isolated from the preponderant traditional nomadic cavalry of the Crimean military.<sup>230</sup> Contrary to Penskoï, Halil Inalcik believes that Sahib Geray's firearms and standing troops had "profound implications for the khanate."<sup>231</sup> Sahib Geray was "one of the most powerful exponents of the idea of a centralized khanate in the Crimea."<sup>232</sup> Inalcik demonstrates how the khan transformed his traditional retinue of *nökers* into Ottoman-style salaried officials, and reformed the land-owning and financial arrangement of the khanate to maintain his new standing army. An American historian Carl Kortepeter points out that the khan's standing corps obtained a dedicated recruiting source in the khan's villages on the Northern Black Sea Shore outside of the tribal-engulfed Crimean Peninsula. The build-up of the Crimean professional corps was supported by the special Ottoman fund.<sup>233</sup> The works in Ottoman Kaffa supplied the corps with plenty of powder and the forges in the khanate's capital of Bakhchysaray manufac-

227 Inalcik, "The Khan and the Tribal Aristocracy," 460–61

228 Ostapchuk, "Crimean Tatar Long-Range Campaigns," 161

229 Ostapchuk, "Crimean Tatar Long-Range Campaigns," 155

230 Пенской, "Военное дело Крымского ханства," 704–706; Пенской, "Военный потенциал Крымского ханства," 62–63.

231 Inalcik, "The Khan and the Tribal Aristocracy," 461.

232 Inalcik, "The Khan and the Tribal Aristocracy," 458.

233 Kortepeter, *Ottoman Imperialism During the Reformation*, 15.



tured excellent handgun barrels.<sup>234</sup> Kortepeter's remarks supplement Inalcik's research on the "diffusion of firearms" with the Ottoman-Crimean interaction.<sup>235</sup> Inalcik, Kortepeter and Ostapchuk stop short of presenting Sahib Geray's military model as the manifestation of the Crimean Khanate's share in the gunpowder revolution similar to the Ottomans' well-acclaimed participation. However, the khan was overwhelmed by the conspiracy of the clan leaders after his patron, Sultan Suleyman I, deprived him of Ottoman support.<sup>236</sup> The Ottomans opposed the Crimean khans' autocracy, not in favor of the clan license but Istanbul control. The Crimean military reforms coincided with the consolidation of the Ottoman Northern Black Sea coast as the agricultural heartland of the manorial latifundia that were tilled by tens of thousands of Crimean-abducted slaves.<sup>237</sup> Brian Davies considers that the slave supply became the new specialization of the Crimean Khanate in the Ottoman "division of labour"<sup>238</sup> that required tighter Ottoman control over the khanate.

The incessant Crimean slave-raiding inclines a Polish scholar Andrzej Gliwa to regard Crimean warfare as being "unconventional," "nonlinear," "terrorist," and a "hybrid" warfare of a weaker army against non-military objectives of much stronger opponents.<sup>239</sup> An American scholar Brian Glyn Williams treats the Crimean military organization, weaponry and tactic as being "a product of thousands of years of steppe warfare, and [...] differed little from those used by Attila and his Huns a millennium earlier."<sup>240</sup> Anatoly Khazanov believes that the Crimeans' "military organization to a large extent followed social, clan and tribal lines. This alone prevented the emergence of closed and hereditary specialized military strata."<sup>241</sup> And Jürgen Paul considers that the regular standing professional armies were rare and short-lived in the nomadic societies.<sup>242</sup> Russian scholar Leonid Bobrov believes that Crimean warfare, although enriched with the gunpowder practices "was a regional variation of the late-Turkic military tradition of the nomads of the steppes," and "its adaptation to the gunpowder revolution" of the sedentary armies rather than an integral part of the military

234 Kortepeter, "The Relations between the Crimean Tatars and the Ottoman" 342.

235 Inalcik, "The Socio-Political Effects of the Diffusion of Fire-Arms," 195, 210–11

236 Inalcik, "The Khan and the Tribal Aristocracy," 466

237 Широкопоров, *Украинская война*. Кн. 2, *Турецкий прорыв*, 602–609

238 Davies, *Warfare, State and Society*, 20

239 Gliwa, "The Tatar military art of war," 222, 227

240 Williams, *The Sultan's Raiders*, 5

241 Khazanov, "The Eurasian Steppe Nomads," 190

242 Paul, "The State and the Military – a Nomadic Perspective," 50–53

revolution.<sup>243</sup> Bobrov discovers that other nomadic polities of the Western and Central Eurasian steppes, the Nogay Horde, in particular, were also involved in the formation of the gunpowder units<sup>244</sup> and insistently searched for allies who could provide ready firearm troops for their armies. The Dnieper and Don Cossacks became this kind of supplier for the Crimeans and Nogays respectively, despite being unreliable.<sup>245</sup>

Bobrov tells a story of how the Nogay Horde was destroyed by the Kalmyks, an Oirat Mongolian nomadic federation that overran the Western Eurasian steppes in the 17<sup>th</sup> century.<sup>246</sup> The Nogays were not able to counter the Kalmyks' tactic of the lance attack at home since they did not have the necessary anchor of the wagon-camp with handgunners and artillery in their array. The Crimeans were saved due to their ability to deploy this anchor and repel the Kalmyks' charges.<sup>247</sup> The gunpowder revolution looks much more important for steppe warfare than is normally considered. The Crimean army might be the particular nomadic case that corrects the sceptics' estimations. Halil Inalcik and Leslie J.D. Collins<sup>248</sup> unfold how the successors of Sahib Geray, great warrior Khans Devlet Geray and Gazi Geray, used the standing army of their predecessor, and Sheykhumerov observes it in the 17<sup>th</sup> and 18<sup>th</sup> centuries.<sup>249</sup>

The Crimean military and political development on the eve and in the aftermath of the battle over the Rostislavl fords is an example of the uneven and combined development in the Early Modern Period. It is a bright illustration to the theory of Leon Trotsky, introduced by Justin Rosenberg,<sup>250</sup> although its adepts remain caged within the sedentary-nomadic interaction and miss the inner dynamics of some nomadic societies.<sup>251</sup> The Crimean Khanate was an outstanding but not unique nomadic polity where the mighty socio-political transformation was pushed by the competitive military changes of the 16<sup>th</sup> and 18<sup>th</sup> centuries. It combined a sharp mutation of the native socio-political structures and adoptions from outside, similar to the Crimean pattern. The tribal structure of the

243 Бобров, "Тактическое искусство крымских татар," 355–56

244 Бобров, "Тактическое искусство крымских татар," 291–95

245 Бобров, "Тактическое искусство крымских татар," 252, 293, 303, 354

246 See Donnelly, *The Russian Conquest of Bashkiria*, 21, 35–36

247 Бобров, "Тактическое искусство крымских татар," 245–7, 278–9, 303, 314, 323

248 Collins, "The military organization and tactics of the Crimean Tatars," 260; Inalcik, "The Khan and the Tribal Aristocracy," 459–60

249 See details in Шейхумеров А. А., *Армия Крымского ханства*, 41–55

250 Rosenberg, "Isaac Deutscher and the lost history of international relations."

251 Anievas and Nişancıoğlu, *How the West Came to Rule*, 70

Transcaucasian Turkmens, *Qizilbash*, the military and political base of the Safavids, transformed in the first half of the 16<sup>th</sup> century to the charismatic military groups, *uymak*,<sup>252</sup> that became the operational divisions of the Safavid army. The importance of the *uymaks* is often underscored to increase the historiographic value of the court slave troops of the Safavids, *gulam*, in mastering firearms,<sup>253</sup> however, the *uymaks*' importance in the Safavid campaigning against the Ottomans was prominent.<sup>254</sup> The Far Eastern tribal federation at the opposite end of the Eurasian steppe, later known as Manchu, advanced to military prominence after 1601 when its leader, Nurhaci, introduced the banner system. He reorganized the tribal militia into the military divisions, *gūsa*, consisting of permanent companies, *niru*.<sup>255</sup> Peter Lorge considers the banner system to be the first reason for the Manchu's fighting capability. Other authors often omit it preferring to demonstrate the gunpowder innovations, administrative institutions and renegades that the Manchu borrowed from the Chinese. Geoffrey Parker, one of the founders of the military revolution concept, tracks the interaction of this organic Manchu military change with the Chinese adoptions.<sup>256</sup> Lorge and Parker see their combination as the leverage for the Manchu's great enterprise, *Da Ye*, the conquest of China.<sup>257</sup> The Crimean, *Qizilbash* and Manchu nomadic patterns of the military and social dynamics in the 16<sup>th</sup> to 17<sup>th</sup> centuries, combining organic changes and borrowings, were vigorous similar to the European military revolution although these two paths were increasingly diverging. "A climax and a conclusion" of "interaction between settled and nomadic peoples"<sup>258</sup> that Morillo, Black, and Lococo find were far from evident.

*Political reforms became elements of military change.*

The pace of the military innovations in the West and East differed not in the stages of the civilizational development over centuries but in years and sometimes months. The Muscovite militaries faced it on 23 August to 4 October 1552 at Kazan. The campaign was one of the major events of the 16<sup>th</sup> century and its military, national and geopolitical aspects have been studied in detail. In

252 Dickson, "Shah Tahmasb and the Uzbeks," 6–8

253 Streusand, *Islamic Gunpowder Empires*, 170–71

254 Эфендиев, *Азербайджанское государство Сефевидов*, 86–89, 92–94

255 Lorge, "War and warfare in China," 91–93

256 Parker, *Global Crisis*, P.II,5

257 Lorge, "War and warfare in China," 95–96; Parker, *Global Crisis*, P.II,5

258 Morillo, Black, and Lococo, *War in World History* Vol. 2, 324

the most of descriptions, it looks like the showpiece of the gunpowder revolution and military organizational reform. It was carried out by a huge army with plenty of professional standing troops. The Muscovite army was diversified and consisted of cavalry, infantry, artillery, riverine flotilla with onboard guns and amphibious troops, engineering corps and scouts; it fought with good tactical coordination according to the smart operational design, timing and knowledge of the terrain. The Muscovite campaign at Kazan in 1552 looks like the watershed moment between Medieval and Early Modern warfighting in Eastern Europe, between the rising West and stagnating East. Was it?

Marshal Poe defines how in the middle of the 16<sup>th</sup> century “the Muscovite elite began to alter the composition of its forces, in part to make the older cavalry army more effective and in part to take advantage of Western gunpowder technology.”<sup>259</sup> Major Soviet medievalist Aleksander Zimin devoted a special study to the Muscovite military reforms that were carried out on the eve of the taking of Kazan in 1552. Zimin, the prolific author of multiple books and essays on the Russian history of the 14<sup>th</sup> to 17<sup>th</sup> centuries considers that the unsteady organization of the army was the main shortcoming of Muscovite warfare on the eve of the campaign. The government of Tsar Ivan IV the Terrible introduced a clear order of the top-rank appointments and leadership in the troops. The government’s project to accommodate the chosen “thousand” nobles around Moscow delivered the pool of reliable officials for medium-rank appointments in the army and administration.<sup>260</sup> Vitaly Penskoy in his study of the middle-level military leaders of the Muscovite army in the middle of the 16<sup>th</sup> century<sup>261</sup> describes the rise of the lower gentry to command positions due to their fighting experience with decreasing influence of their social background. A new command structure of the Muscovite forces was implemented. The ad hoc tactical corps were changed to administrative divisions that consisted of “hundreds,” *sotnya*. The division became similar to the West European administrative regiment or Spanish *tercio*, and a hundred was similar to the company. The *sotnyas* had a constant composition and predictable fighting capability. Depending on the combat situation, the division could have taken a different array in the same way as the Spanish *tercio* and West European regiment had the different options of deployment in action, *esquadron* and batallion.<sup>262</sup> It was a change from the

259 Poe, “The Military Revolution, Administrative Development,” 252–53, 260–61

260 Зимин, “К истории военных реформ,” 346–48

261 Пенской, *Мужжи наипенчайшие и наикрепчайшие*,

262 Rogers, “Tactics and the face of battle,” 218

late medieval array determined by social and territorial adhesion to the military array determined by organizational and tactical objectives.

Richard Helie and Vitaly Penskoï study the regulation of the basic mobilization unit of the territorial company, a military serviceman with his retainers, that was introduced in 1550 to 1552, on the eve of the Kazan campaign, and legally imposed in 1555 to 1556, in its aftermath. Scholars look at it as the most important component of the Muscovite military reforms in the middle of the 16<sup>th</sup> century. The number of servicemen's retainers and their equipment was linked to the productive capacity of their land allotment and the volume of their stipend from the treasury.<sup>263</sup> Soviet historians Victor Paneyakh and Evgenia Kolychева explore the legal norms that provided the fighting retainers for the gentry. The retainers, *kholops*, were not fighting slaves or serfs but professionals who provided military labor for cash or similar remuneration.<sup>264</sup> Oleg Kurbatov finds that due to the reform the Muscovite cavalry became more numerous and capable of more effective tactics, although the muster prescription of the cavalryman's arms and armor restricted to the cavalry some important technique variations like the cohesive spear-charge.<sup>265</sup> The conclusions Penskoï reaches are unusual. The reforms of the Muscovite cavalry in the middle of the 16<sup>th</sup> century fixed its numerical domination in the Muscovite army and persisted with its archaic Tatar-like tactics.<sup>266</sup> All that made Penskoï doubt the military revolution in Russia in the period of the Kazan campaign of 1552 similar to Aleksander Boïdyrev's doubts about the Polish army.<sup>267</sup> The handgun infantry and artillery components of Tsar Ivan IV's military reforms look for Penskoï like a disguise of Western modernity on the tsar's "oriental" host.<sup>268</sup> Dianne L. Smith then concluded that "Muscovy essentially possessed two separate armies: one predominantly cavalry with infantry and artillery support to fight the Tatars in the south, and a second force predominantly infantry and artillery with cavalry support to fight in the west and north."<sup>269</sup>

Aleksander Zimin describes the introduction of the standing infantry with

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263 Пенской, *От лука к мушкету*, 45–46

264 Колычева, Е. И., *Холопство и крепостничество*, 69–70; Панейх, *Холопство*, 25–26

265 Курбатов, "Очерки развития тактики русской конницы."

266 Пенской, *Великая огнестрельная революция*, 326–30; Пенской, *Военное дело Московского государства*, 77–78

267 Пенской, *Великая огнестрельная революция*, 321–23

268 Пенской, *Военное дело Московского государства*, 79

269 Smith, "Muscovite Logistics," 65



firearms only after he deals with the organizational military reforms. It seems that this order was determined not by their research value but their importance for the army's capability. Zimin demonstrates that new infantry corps of *streltsy*, handgun-shooters, succeeded the former conscripted handgunners of which 3,000 were enlisted to serve on a standing basis.<sup>270</sup> Penskoy adds the adoption of the Western experience that was learned in fighting against Central-European soldiers and was brought to Moscow by mainly Italian and German mercenaries and advisers.<sup>271</sup> Sergey Nefedov points out the probable Muscovite adoption of the Ottoman military practice.<sup>272</sup> However, American scholar Carol Stevens argues for the completely different organic emergence of the *streltsy*. It was the border defenses of the Oka's *Bereg* where the new kinds of troop mobilization and combat practice emerged. Stevens points out the special governmental chancellery and taxation that had been introduced to manage and maintain the hirelings of the *Bereg* defense in the 1530s and then took over the running of the *streltsy* corps.<sup>273</sup> It was a practice that gave birth to the *streltsy* corps, and neither based on Western or Ottoman adoption nor the tsar's antique knowledge and mystic revelation as some other authors suppose. Stevens' conclusion is very important, because Poe's implementation of the military reforms imagined by some court elite is one thing and the governmental efforts to tame the military changes that were generated by the widening military practice is completely another. Among the latter the build-up of the handgunner corps was one of the government's prime deals.

The centralized recruitment of commoners to the military service in the gunpowder units and governmental regulation of the military labor is considered a feature of the military revolution in Western Europe. Muscovy did not lag far behind. The standard weaponry, regular training and refined organization in the permanent units, *prikaz*, were the main advantages of the *streltsy* over former conscripted handgunners. The distinguished service of *streltsy* at Kazan in 1552 caused the fast growth of their numbers from 3,000 in 1550 to around 20,000 at the end of the 16<sup>th</sup> century and their spread from Moscow to almost all towns of Muscovy.<sup>274</sup>

Despite Penskoy's suspicions of the *streltsy's* copying of Western infantry

270 Зимин, "К истории военных реформ," 354–58

271 Пенской, *Великая огнестрельная революция*, 304

272 Неведов, "Реформы Ивана III и Ивана IV."

273 Stevens, *Russia's Wars of Emergence*, 74–75

274 Пенской, *Великая огнестрельная революция*, 304–308

warfare, Michael Paul finds the *streltsy*'s employment to be different. The *streltsy* rarely fought alone in the open, but were always deployed under the protection of cavalry<sup>275</sup> and "fired upon the enemy from wooden platforms, from behind moats or fascines, or from within mobile wooden fortifications."<sup>276</sup> Paul's observation rather confirms Nefedov's belief that the Ottoman janissaries were behind the *streltsy*'s combat style because the Ottoman wagon-camp, *tabur*, had the same function.<sup>277</sup> Robert Frost sees the wagon-camp array as the ad hoc solution forced on the infantry by the cavalry's agility and shock, and the shortcomings of the firearms.<sup>278</sup> Meanwhile Brian Davies and Vitaly Penskoï show that the deployment of the Muscovite handgunners behind the moving walls, *gulyay-gorod*, or in fighting wagons *oboz*, was an elaborate tactical innovation similar to the Western pike hedge.<sup>279</sup> In Western Europe where cavalry used short-range pistols, the pikemen were the effective barrier, but in Eastern Europe, where the cavalry decimated infantry by use of mightier composite bows, the wagon-camp and friendly cavalry were the better protection. Richard Hellie insists that *streltsy* did not participate intentionally in hand-to-hand combat.<sup>280</sup> However, from the first appearance of *pishchalniki* as the shock force in the storming of Smolensk in 1513 to the *streltsy*'s premier spearheading the assault on Kazan in 1552, the cold steel fight was their intrinsic function inseparable from handgun shooting. The eyewitness description of the taking of Kazan in 1552 confirms that the long spear was used by the Muscovite infantry, its fighting function was similar to the function of the Western pike, and the Muscovite support of the spear charge with the handgun shooters was probably a situational use of the pike-and-shot tactic.<sup>281</sup> Michael Paul rightfully mentions that together with the *streltsy* the attack was manned by Muscovite "universal soldiers", the retainers of the service nobles,<sup>282</sup> and also, Penskoï adds, by the domestic hirelings, Cossacks, who fought like Western dragoons.<sup>283</sup> The establishment of the *streltsy* corps was only a part of the broader Muscovite reform that also injected

275 Paul, "The Military Revolution in Russia," 20

276 Paul, "The Military Revolution in Russia," 22

277 Uyar, and Erickson, *A Military History of the Ottomans*, 50–51

278 Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 27

279 Davies, "Guliai-gorod, Wagenburg, and Tabor Tactics," 99; Пенской, *Великая огнестрельная революция*, 310

280 Hellie, *Enserfment and the Military Change*, 162

281 Shirogorov, "A True Beast of Land and Water," 292

282 Paul, "The Military Revolution in Russia," 22

283 Пенской, *Великая огнестрельная революция*, 311



Fig. 9. The climax of the Muscovite firepower. Smolensk, the main Polish-Lithuanian stronghold in Western Rus was bombarded to surrender in 1514. The Russian military relied on their artillery superiority ever since. *The Russian Illustrated Anthological Chronicle of the Sixteenth Century, The Shumilov Volume*, Moscow. The Russian National Library, Jl. 731. Courtesy of Runivers, Russia.

the practice of infantry warfare and firearms inside the predominant cavalry bulk of the army.

Muscovite artillery development was another venture that corrected the army's cavalry bulk. Richard Hellie states that by 1600, Muscovy had 3,500 cannons, and by the late 1600s, from 4,000 to 5,000 pieces. "Russian military successes [...] can be attributed in large part to the skilful use of artillery."<sup>284</sup> Aleksey Lobin agrees that the Muscovite artillery was rearmed with the most advanced types of bronze cannon, which were produced in big numbers in high quality according to the best technology imported from the West.<sup>285</sup> Mario Corti relates the transfer of the manufacturing technology and battlefield experience from Italian states to Muscovy.<sup>286</sup> The Muscovite siege and fortress artillery was substantially improved and regimental artillery to support the cavalry and infantry in action was established. The development and deployment of the artillery was a special accomplishment of the tsar's military administration. Vitaly Penskoï considers that Muscovy's military bureaucracy and logistics, the prerequisites of the Muscovite military successes, were put in order and vested with broader authority and responsibility to prepare for the venture against Kazan in 1552.<sup>287</sup> American scholar Dianne L. Smith describes a range of the specialized bureaucratic bodies that were set up under the Military Chancery, *Razryadny Prikaz*, to manage the military affairs including personnel, weaponry and fortifications, military logistics and operational deployment.<sup>288</sup> "Muscovy was faced with conducting operations over distances matched only by its Ottoman neighbors."<sup>289</sup> Smith is especially attentive to the Muscovite administration of the military transportation and supply with its career managing staff and conscripted personnel,<sup>290</sup> resembling in her brief depiction Jan Glete's well-researched Swedish naval administration, a co-runner of the fiscal-military absolutism.<sup>291</sup>

Sergey Bogatyrev tracks the transformation of the monarch's authority in Muscovy just before and immediately after the taking of Kazan. The introduction of the title of tsar for the monarch with its imperial ambitions and religious

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284 Hellie, *Enserfment and the Military Change*, 157, 185

285 Лобин, А.Н., "Русская артиллерия в царствование Ивана Грозного."

286 Корти, *Итальянские военные на русской службе*, Ч. 1–3

287 Пенской, *Великая огнестрельная революция*, 312–13

288 Smith, "Muscovite Logistics," 57–61

289 Smith, "Muscovite Logistics," 64

290 Smith, "Muscovite Logistics," 62–64

291 Glete, *Swedish Naval Administration*.



fever turned the tsar dynasty into the embodiment of sacred power. The claim was illustrated by the scenes of the taking of Kazan in the chronicles and on the icons. It became the leverage for autocratic rule.<sup>292</sup> Autocratic rule is the base of Marshall Poe's well-known concept of the military revolution in Muscovy, cited above. Poe does not define either the events that saw it emerge or the political forces involved in its emergence. It seems that Poe's Muscovite autocracy, which ram-battered Russia's path to an imperial future, had been the product of the dynastic, military, and ideological circumstances of the exact military event, the taking of Kazan in 1552. The Muscovite autocracy looks like one of the military changes. And the Russian military revolution was not turned out to be by divine imperative but the product of political and personal struggle and bargaining.

Brian Davies reasonably argues that Marshall Poe as well as Richard Hellie and Richard Pipes underrun the political practice and overestimate the "totalizing claims" of the Muscovite rulers, "autocracy, patrimonialism, and universal compulsory state service."<sup>293</sup> Although Davies pays regard to the adepts of this theory,<sup>294</sup> he demonstrates in his books and essays a substantially different picture of the dissident and mutinous interaction of the broader Muscovite society with the rulers and their rules, of the administrative and military forms created by the combat practice and social pressure from below that the rulers integrated into their representation of power while vesting it with an autocratic mantle.

The Muscovite military reforms, the bureaucratic transformation of government and the upgrade of the monarchy to tsar status were accomplished not by the monarch's will alone but together with the estate representatives, the *Sobor*. The *Sobor* established itself as the pillar of power in January of 1542, only six months after the battle of the Rostislavl fords, when Prince Ivan Shuysky, the Muscovite commander-in-chief, suddenly directed at Moscow the army of the territorial companies, that was collected under his command on the border with Kazan. Mikhail Krom and Aleksander Korzinin describe how Shuysky's troops entered the capital, overturned the government, dethroned the Orthodox Metropolitan and made the teenage Grand Prince Ivan IV (future) the Terrible stay at attention before the icons in his bedroom while the troopers searched his palace for the hated grandees to bruise, arrest and exile them.<sup>295</sup> In a few weeks,

292 Bogatyrev, "Reinventing the Russian Monarchy."

293 Davies, *State Power and Community in Early Modern Russia*, 3

294 Davies, *State Power and Community in Early Modern Russia*, 4

295 Корзинин, "Политическая борьба в России в годы боярского правления," 11; Кром,



the same provincial cavalry troopers, together with some townsfolk's elders and church bishops, self-composed the estate legislative, *Sobor*. Princes Ivan Shuysky and Dmitry Belsky, the army's chief field commander at Kolomna in 1521 and Rostislavl in 1541, presided over the *Sobor*. All of the *Sobor*'s reforms were in favor of the territorial cavalry's servicemen. The *Sobor* introduced the new legislation on the service land allotments, army command appointments, taxation and local administration.<sup>296</sup> It was the final moment of the transformation of the Muscovite army of the territorial companies into the social class when the army became the corporation of the military servicemen-landowners. Acting as the *Sobor*, the army-estate arrogated a substantial part of the Muscovite sovereignty that had belonged to the Rurikid grand prince dynasty indivisibly. After the turnover of January of 1542, the tsar's power was unable to impose important legislation on the army, taxes, administration and foreign affairs without the *Sobor*. The autocratic claims of the Muscovite tsars, soaring to the heavens, were accompanied by the steady and well-grounded increase of the estates' political position. The class of the cavalry servicemen gained the majority in the *Sobor* in 1549.<sup>297</sup> The local administration was grabbed by their corporative institutions invariably.<sup>298</sup> The Muscovite military reforms in the middle of the 16<sup>th</sup> century could be taken as the tsar's order or divine will, following the propaganda literature or icons, and they could be studied as the Muscovite example of the corporatization of sovereignty that became the important component of the socio-military transformation in the first stage of the military revolution cycle.

On 2 July 1554 and in March to April 1556, two Muscovite amphibious assaults followed one after another on the Astrakhan Khanate, a Tatar successor of the Golden Horde, although much weaker than the Crimean and Kazan Khanates. While the Muscovite conquest of the Kazan Khanate was a major military event with tens of thousands of combatants, the conquest of the Astrakhan Khanate was the achievement of the small amphibious force composed of professional troops and a riverine flotilla equipped with onboard artillery. Considering the high position of the Astrakhan Khanate in the Steppe Tatar hierarchy, the achievement was stunning. It supplanted the Muscovite strategy against the Tatar successor polities of the Golden Horde with the riverine amphibious

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*Вдовствующее царство*, 275–78

296 Кром, *Вдовствующее царство*, 438–39, 540–53

297 Зимин, *Россия на рубеже XV-XVI столетий*, 87

298 Бовыкин, *Местное самоуправление в Русском государстве*, 181; Зимин, “О методике актового источниковедения,” 39–44

component. From 1556 to 1560 the Muscovite amphibious troops carried out a series of riverine and offshore attacks against the Crimean and Ottoman facilities on the Northern Black Sea and Azov Sea shores.<sup>299</sup> The Muscovite amphibious attacks carried out over the thousand kilometers of the uninhabited wild steppe from the border forts at the rivers Don and Dnieper upper reaches toward their mouths in the Black Sea and Azov Sea became the military operations that first time integrated the vast fragmented frontier, the Ukraine, as the all-in-one region. The Ukraine emerged as the military-geographical wholeness to be filled with the ethnic and political contents.

Russian historian Oleg Kuznetsov, Ukrainian researcher Volodymyr Serhiychuk and French scholar Chantal Lemerrier-Quelquejay demonstrate the process of diffusion of the Muscovite firearms and amphibious tactics to the Dnieper Cossacks during their mercenary service in the Muscovite riverine expeditions to the Crimean and Ottoman Black Sea facilities. Marina Tolmacheva relates how the Dnieper Cossacks' disturbed the Ottoman Empire with this signature tactic in the 17<sup>th</sup> century, the last century of the Ottomans' expansion before their decline.<sup>300</sup> The common social background of the Muscovite personnel, consisting mainly of the *streltsy* handgunners and domestic Cossacks, and the Dnieper Cossacks of the lower Lithuanian martial estate and marginals, smoothed the transfer of military knowledge between those warrior groups.<sup>301</sup> It seems that in Eastern Europe the riverine and offshore amphibious warfare of the gunpowder epoch became the military technique of the marginal social elements of the former Medieval society that, together with other forces, shattered the existing political order as in the states where the objectives of their raiding were located, the Ottoman Empire and Crimean Khanate as in the states to which they declared their allegiance, Muscovy and the Polish-Lithuanian Commonwealth. This riotous nature of the frontier warrior social groups, united by the amphibious and light firearms tactic, burst into the Muscovite and Polish-Lithuanian civil wars of the 17<sup>th</sup> century.

The Muscovite riverine amphibious superiority became strategically decisive in 1569 when the major Ottoman amphibious assault on the new Muscovite fortress in Astrakhan was repulsed which virtually cut short Ottoman ambitions in the Caspian and Central Asia region forever. A Russian scholar

299 Shirogorov, "Albuquerque at Malacca, 1511; Yermak in Siberia, 1582," 109–113

300 Tolmacheva, "The Cossacs at Sea."

301 Кузнецов, О.Ю., *Рыцарь Дикого поля*, 109–16, 140–62; Lemerrier-Quelquejay, "Un Condottiere Lithuanien du XVI<sup>e</sup> Siècle," 266–76; Сергийчук, *Дмитро Вишневецький*, 82–117

Vadim Trepavlov underlines the key importance of the Muscovite conquest of Astrakhan for the fragmentation and further demise of the Nogay Horde, the most populous nomadic successor of the Golden Horde.<sup>302</sup> The demise of the Nogay Horde removed the barrier from Muscovite expansion into the Caspian region and Central Asia which became the second prospect of the Muscovite imperial aggrandisement after the march into Siberia towards the Pacific. Siberia was opened for Muscovite expansion by the amphibious venture of 1582 against the Siberian Khanate carried out according to the Astrakhan experience by the troops staffed with the Astrakhan-seasoned personnel.<sup>303</sup>

American historian Robert J. Kerner argues in detail that the Muscovite southward and eastward expansion was predominantly based on the riverine amphibious gunpowder technique and control of the key communication points.<sup>304</sup> Strangely, Geoffrey Parker, collecting his range of the military revolution's souvenirs from different parts of the globe ignores Kerner's concept despite his (Parker's) close attention to the military changes in Russia. Possibly the reason is that Kerner had authored his book on the high tide of American sympathy to Russia in the middle of WWII and Parker reforged Roberts' military revolution concept in the stale air of animosity in the Cold War's closing years.

Significantly, the advance of the Muscovite amphibious tactic coincided in time with the construction of the *Abatis* defensive line 100 kilometres south of the Oka's *Bereg*. The Muscovite gunpowder and infantry innovations were necessary for the functioning of the *Abatis* line because it was not a fortification to hold on to but was a complex of barriers and traps to channel the Tatar forces of invasions to some bottleneck narrows where they were decimated by the Muscovite firepower of the artillery and infantry with handguns. The *Abatis* operational deployment of the Muscovite army that was introduced along the new defensive line became centrally regulated and rigid in the same way as the *Bereg* Array,<sup>305</sup> and had much less tactical diversity than the Polish-Lithuanian *Lvov Rule*. The initiative of the Muscovite commanders was contained on the local level, the operational decision-making was made in the Military Chancery, and the variations of the tactic were prescribed.<sup>306</sup> Brian Davies carefully concludes that "assuming over-centralization was a chronic problem rendering Muscovite

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302 Трѣпавлов, *История Ногайской орды*, 283–93

303 Shirogorov, "Albuquerque at Malacca, 1511; Yermak in Siberia, 1582."

304 Kerner, *The Urge to the Sea*.

305 Davies, *Warfare, State and Society*, 46

306 Davies, *Warfare, State and Society*, 47–48

army operations generally less effective [than Polish-Lithuanian] probably goes too far.”<sup>307</sup> Both armies had their achievements and failures. The Muscovite amphibious tactic and defensive lines worked together as the strategic arrangement that surpassed the advantages that the Crimean and Ottoman warfare still enjoyed in the steppes.

Davies sees that the construction of the *Abatis* line and *Abatis* operational deployment had revolutionary social and political consequences. The newly colonized lands became a substantial part of the territory where the Russian nation consolidated and the new groups of the population, of key importance for Russian history, emerged.<sup>308</sup> The Muscovite fiscal and military bureaucracy that transformed the Muscovite state and army into a fiscal-military state by the reign of Emperor Peter the Great had emerged through the construction of the frontier defensive lines and administration of the standing regular army which settled on them.

Michael Paul sees that “Russia adopted some Western siege techniques as early as the famous assault on Kazan’ in 1552” but they were mixed with use of the traditional Russian Medieval siegecraft.<sup>309</sup> Christopher Duffy, an expert on the Early Modern siege, writes that “the impression of modernity was somewhat spoilt at Kazan by the forty-foot siege tower.” While stocked with ten large and 50 smaller guns, “the tower still harked back to the siege machines of the Middle Ages.”<sup>310</sup> Was the Muscovite military revolution such a cumbersome mixture of the advanced Western and stale aborigine features? Vitaly Penskoï advocates the military revolution in Russia in two stages with its gunpowder period in the 16<sup>th</sup> century and the complete reconstruction of the military and administration at the turn of the 17<sup>th</sup> to 18<sup>th</sup> centuries. Both of the stages were borrowing and chasing after the West-European (Penskoï) or Ottoman (Nefedov) military racers. Robert Frost and Aleksander Bołdyrew advocate the same borrowing-chasing approach for the Polish-Lithuanian Commonwealth with the difference that the second stage was never carried out in the Commonwealth at all.<sup>311</sup> Marshall Poe finds for his “hybrid military-fiscal format-cavalry / *strelt-*

307 Davies, *Warfare, State and Society*, 48

308 Davies, *Warfare, State and Society*, 64–65, 81–84

309 Paul, “The Military Revolution in Russia,” 35

310 Duffy, *Siege Warfare in the Early Modern World*, 172–73

311 Bołdyrew, “Przemiany uzbrojenia wojska polskiego,” 130; Frost, “The Polish-Lithuanian Commonwealth and the ‘Military Revolution’,” 37

sy”<sup>312</sup> the track of providential activity of the Muscovite court elite. The organic self-sustained Muscovite development of Robert J. Kerner and Carol B. Stevens that we have met above is the third direction. *Quo vadis?*

Discussing long-running socio-political matters, Alexander Zimin turns the order of the practical layout of the Muscovite military reforms completely around. Zimin nominates the establishment of *streltsy* standing handgunners as evidence of the Marxian transformation of Muscovy from feudalism to capitalism with the growth of the military importance of the town-based gunpowder warfare over the rural-based noble cavalry and the rise of the bureaucratic absolutism over the feudal corporations.<sup>313</sup> The co-run of the Muscovite taking of Kazan in 1552, which was abundant with military changes, and the socio-political transformation in the same years was not coincidental. It was the tight knot that brought to Muscovy the superiority over its geopolitical contenders further east and south-east of Eurasia and reversed its ambitions to the west and north-west. It was exactly this turn which initiated the socially and politically destructive components of the extremely effective military development. The name of this turn is the Livonian War.

### *The mobilizational political regime drove civil war.*

From January 1558 to September 1560 the Muscovite armies of different numbers and compositions consisting of the territorial cavalry companies, Tatar mercenaries, standing handgunner corps and artillery waged winter and summer campaigns with the general objective of overrunning the territory of the Livonian Confederation, the protectorate of the Livonian Order, in the Eastern Baltic. They were opposed by Livonian troops consisting of German mercenaries, the Order's units of knight-brothers and landowning knights, and urban and peasant militia. The Muscovites managed to grab the eastern slice of Livonia with some important towns, however its central and western parts with two principal centers, Riga and Revel (now Tallinn) remained out of their reach. Vitaly Penskoï considers that the failure of the Muscovite siege of Weesenstein in August to September 1560 and the entrance of Lithuania, Poland, Sweden and Denmark into the struggle over the Livonian legacy meant the end of the Livonian War,<sup>314</sup> and its expansion into (using the notion of Robert Frost) the First Northern War.

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312 Poe, “The Military Revolution, Administrative Development,” 255

313 Зимин, “К истории военных реформ,” 357–58

314 Пенской, В.В., “Ливонская война 1558–1561 гг.,” 212



Both Penskoy, more attentive to the Muscovite side, and Frost, more attentive to the Livonian side, underline that the Livonian stalemate of 1560 was not caused by the sides' ignorance of the gunpowder revolution or weakness in the use of firearms. Penskoy describes the Muscovites' use of the artillery as routine and flexible, as they were apt with the siege artillery to crush the fortress' walls and bombard inside them with incendiary charges, using the field artillery for the formal battles and light artillery to support the raiding parties and melee groups. The Muscovite standing handgunner corps was the decisive assault tool in the sieges and field battles, while the mounted handgunners also accompanied the cavalry raiding parties.<sup>315</sup> However, from the strategic point of view, the performance of the advanced gunpowder troops was disappointing for the Muscovites. They neither accomplished the conquest nor prevented the competitors from entering the scene. Frost explains the Muscovite confusion by the density of the Livonian distributed defense of 110 Livonian castles well-equipped with firearms and prepared to resist the artillery. The Livonians imported from Germany the advanced weaponry, troops and commanders, and successfully fielded them.<sup>316</sup> However, the most advanced firearms and professional troops were a disappointment for the Livonians as well because they neither rebuffed the Muscovite invasion nor strengthened the power of the Livonian Order sufficiently to preserve its sovereignty. The strategic limitations of the advanced military were the first reason for the oncoming transfer of the military changes into the socio-political crisis.

Vitaly Penskoy identifies the Muscovite Livonian War as the probable point of over-centralization of the Muscovite military administration ahead of the centralization of the political affairs which the military centralization prompted.<sup>317</sup> In striving to capitalize on the military changes the Muscovite government pressed the political regime and society too far into being subservient to them. Different discourses of three Russian historians, Boris Florya, Igor Froyanov, and V.A. Kolobkov demonstrate that the harsh rhetoric of the Muscovite autocracy, which is sometimes considered the eminent reality of the Russian political constitution, was born in the political struggle following the dissatisfaction in Livonia. They also accentuate the inner contradiction of the allegedly autocratic political model which in reality combined the tyranny of Tsar Ivan IV the Terrible that was imposed by terror, *Oprichnina*, and the growing power of the

315 Пенской, *От лука к мушкету*, 51, 55

316 Frost, *The Northern Wars*, 23

317 Пенской, *Военное дело Московского государства*, 131–32

estates in administration, law-making, and the economy.<sup>318</sup> In the aftermath of the Livonian military stalemate, Muscovy looked like the country of a huge on-coming political and social crisis to which nobody had a remedy. The Muscovite warfare performance in the aftermath of the Livonian war looks like the demonstration of the specific causation of the military revolution epoch, when the military disasters followed the rift between the political regime, racing ahead with centralization, mobilization and military innovations, and an inert society, both alien to them and repelling them. In this situation, the government plays the role of a fire crew that faces a large town in flames with nothing but a solitary high-tech pump. It was exactly the position of the Muscovite rulers when on 28 July to 3 August 1572, the Muscovite army destroyed the superior Crimean invasion forces in the battle of Molodi, 70 km south of Moscow.

The battle of Molodi was a huge engagement with major strategic and military consequences. It was the battle where the Muscovite combat tactic against the Crimean army was refined. The wagon-camp remained the routine of the new tactic but its function was significantly changed. Brian Davies claims that the Muscovite mobile field fortification, *gulyay-gorod*, was not especially large in the battle of Molodi. It contained a limited force of 13,000 cavalry and 3,000 infantry with 100 guns defending the hilltop at the river Rozhay.<sup>319</sup> Vitaly Penskoy considers that all Muscovite position, not only the position of two divisions that Davies accounts for, was protected by the *gulyay-gorod* and *oboz*, the carts of the baggage train strengthened with earth-timber fieldworks.<sup>320</sup> If Penskoy describes the Muscovite array more precisely, the reason for the Crimean failure to storm the *gulyay-gorod* is clear. The Crimeans were not able to encircle the Muscovite center because they were not able to break the *gulyay-gorod*'s flanks protected by the carts and fieldworks. The prolonged front allowed the Muscovite infantry to advance much of its firepower to the firing position. It also allowed the Muscovite cavalry to deploy together with the infantry and artillery which strengthened its stance in the bow-shooting contest and melee with the Crimeans. The prolonged front of the Muscovite wagon-camp at Molodi became a significant tactical modification. The function of the wagon-camp as a mobile fort was dropped. Its function as the barrier between the infantry with handguns and enemy cavalry became more prominent, while the enemy

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318 Колобков, В.А., *Митрополит Филипп*, Гл. 2; Флоря, Иван Грозный, 168–283; Фроянов, *Грозная опричнина*, 111–13, 509–511

319 Davies, “Guliai-gorod, Wagenburg, and Tabor Tactics,” 95

320 Пенской, “Сражение при Молодях,” 169, 172

assault was repelled mainly by fire. It was a victorious tactic that virtually closed the Muscovite heartland to the Crimean invasions after the next victory was achieved by its application at Kolomenskoye near Moscow in the middle of July 1591. It also served the Muscovite army well in its fights against the Poles who relied on their lancer cavalry, the *hussaria*. The Muscovite tactic of “wagenburg convoy” that Davies analyses in detail<sup>321</sup> was the development of the Molodi deployment. It dominated the Muscovite land operations from the end of the 16<sup>th</sup> to the beginning of the 18<sup>th</sup> centuries when the adoption of the socket bayonet and flintlock handguns allowed the wagon-camp to be dropped and use the infantry columns to fight against the cavalry of the Crimeans, Poles, Ottomans, etc.

The battle of Molodi with its principal significance of the infantry firepower marked the fast progress of the Muscovite fighting capability not only against the Crimeans but also against the Poles-Lithuanians and Swedes in Livonia. When in 1572 the fresh Muscovite army entered Livonia, it found the distributed castle defense that stopped it in 1560 much strengthened. A dozen of the large fortresses and tens of the medium forts were interspersed with hundreds of towers, stone and earth-timber blockhouses. During the previous decade they were improved with elements of the bastion design, settled with the mercenary garrisons and trained, and motivated local militia. This fortified network denied not only the acquisition of the territory but also any raiding opportunities because the population learned to evacuate to the shelters and hide their valuables there. The former Muscovite tactic of the prolonged siege and bombardment of the castles was ineffective because there were too many of them. The new tactic of a storm into the breach opened by the concentrated artillery fire became the remedy for the Muscovite expansion. The strong castle of Weesenstein, which held out twice against the weeks-long Muscovite sieges in 1558 and 1560, was taken by storm in 1572. During the next five years, the Muscovites managed to establish their control over central Livonia.

Russian historians Nikolay Likhachev and V.A. Kolobkov demonstrate that the Russian bureaucracy that was allegedly committed to military expansion and imperial grandeur was not of the eminent nature of the Muscovite state from its inception in the 15<sup>th</sup> century, as the adepts of the autocratic theory believe. It grabbed its superior position over the estate and corporative institutions in the short intermediate period between the catastrophe of the Muscovite army's defeat at Moscow in 1571, which was followed by the capital's burning and destruction, and the major victory of Molodi that turned the table on the Musco-

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321 Davies, “Guliai-gorod, Wagenburg, and Tabor Tactics,” 103–108

vite conflict with the Crimean Khanate. It was the year when Chancellor Adrey Shchelkavov, the commoner appointee of the tsar, restructured the Muscovite bureaucracy. The tsar's political control over the traditional estate government was substituted by the new bureaucratic construction.<sup>322</sup> The Muscovite governmental organization that dominated the political landscape until the Petrine reforms at the beginning of the 18<sup>th</sup> century was born, and many of its elements remained active far into the 19<sup>th</sup> century. It was shaped by the deadly emergency of desperate military and international situations in 1571 to 1572 but its steadiness impressed the foreign eyewitnesses and current historians to believe that it was intrinsic to Muscovy. Penskoy regrets that the Muscovite civil war in the first decades of the 17<sup>th</sup> century, the Time of Troubles, interrupted the growth of the bureaucratic government which he sees as a "slow, gradual, stretched in time" evolution, not a "radical overturn."<sup>323</sup> At the same time, the military development that overran the social evolution was probably the prime cause of the Time of Troubles. The rift between administrative vigor and social values could have been a cause of the Muscovite civil war of the first decades of the 17<sup>th</sup> century.

A postponed effect of the Molodi disaster is contained in Carl Kortepeter's narrative on the Crimean Khanate's troubles in the last quarter of the 16<sup>th</sup> century. In October of 1584, the Ottoman commander-in-chief, *serdar*, in Transcaucasia Ozdemiroglu Osman Pasha crossed the Caucasian passes, forded the river Terek, marched over the inflamed North-Caucasian steppe of Kuban, walked on foot over the unusually frozen Strait of Kerch and invaded the Crimea. At the same time, the Ottoman chief admiral, Uluç-Kiliç Ali Pasha landed at the city of Kaffa. They overthrew Khan Muhammad Geray II who was then killed by his rivals. Ozdemiroglu Osman Pasha changed the Crimean political constitution substituting the sovereignty of the Crimean khans for Ottoman sovereignty. The overturning was manifested by the reading of the Ottoman sultan's name first in the Friday prayer, *khutba*, a clear proclamation of the khanate's lord.<sup>324</sup> The khan ceased to be a sovereign not only for the Crimean subjects but for his Muscovite diplomatic counterparts too.<sup>325</sup>

322 Колобков, В.А., *Митрополит Филипп*, 435–74; Лихачев, Н.П., *Разрядные дьяки XVI века*, Гл. 4

323 Пенской, *Военное дело Московского государства*, 131

324 Пенской, *Военное дело Московского государства*, 131

325 Трепавлов, В.В., "Белый Царь", 39

The change was followed by the civil war in the Crimean Khanate<sup>326</sup> that continued during the critical last decade of the 16<sup>th</sup> century when the Muscovite and Polish-Lithuanian colonization advances into the wild steppe must have been restricted to ensure the khanate's long-term survival. The wild steppe was the natural barrier that protected the Crimean Khanate, its erosion rendered the khanate deathly vulnerable. The critical decade was wasted. In the 16<sup>th</sup> century, the Crimean Khanate was a dynamic military state with the potential of transformation to a nation-state, integrating the decaying nomadic "civilization" of the Northern Black Sea, Caucasus and Caspian region, their settlement to agriculture and colonization of this naturally abundant region. However, the Crimean society, of which the Tatar clans were the political agents, was terrified by the military and political changes launched by Khan Sahib Geray and continued by Khan Devlet Geray. When the debacle of Molodi in 1572 debilitated the khan's authority and his standing forces, the Tatar clans turned to the Ottoman assistance in returning to the traditional power and military arrangement. The Ottomans utilized the moment to arrogate Crimean sovereignty. The Ottomans needed the Crimeans' unrivalled ability to hunt for slaves, and they used them to deliver the slaves for their Northern Black Sea latifundia that had the same importance for the Early Modern Ottoman economy as the overseas colonies for the West-European maritime powers. Ottomans needed the Crimean light cavalry to support their gunpowder armies in Hungary, Ukraine and Transcaucasia, and they mobilized Crimeans to their, Ottomans', wars. However, the Ottomans denied the social and political modernization to the Crimean Khanate as well as its military modernization, providing the necessary advanced solutions from outside, from the Ottoman's forces and institutions. The Crimean Khanate fell prey to the rift between the military dynamics and social stagnancy in Eastern Europe at the turn of the 16<sup>th</sup> century.

Lithuania's sovereignty was smashed by military changes in a similar way. Belarusian historian Andrey Yanushkevich demonstrates that during a decade of the First Northern War between 1560 and 1570, the composition of Lithuanian forces changed. The Lithuanian army was transformed from the gentry levy into a predominantly professional force. The impression of the gentry levy's fighting capability was negative from the very beginning of the Lithuanian intervention in Livonia in 1560. The gentry evaded the mobilization and avoided fighting. The levy was the cavalry that fought astride with cold steel, meanwhile the

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326 See Bennigsen, and Lemerrier-Quelquejey, "La Moscovie, l'Empire Ottoman et la Crise Successoriale."



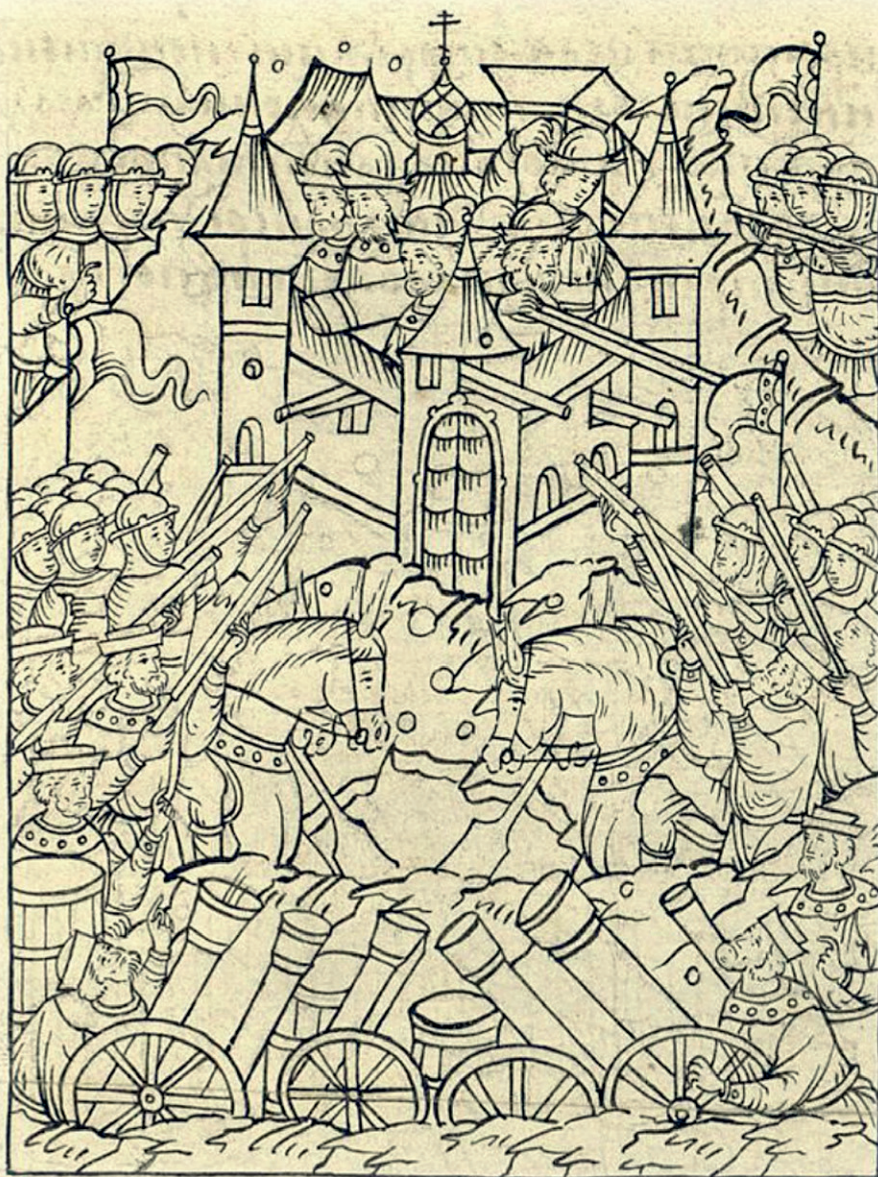
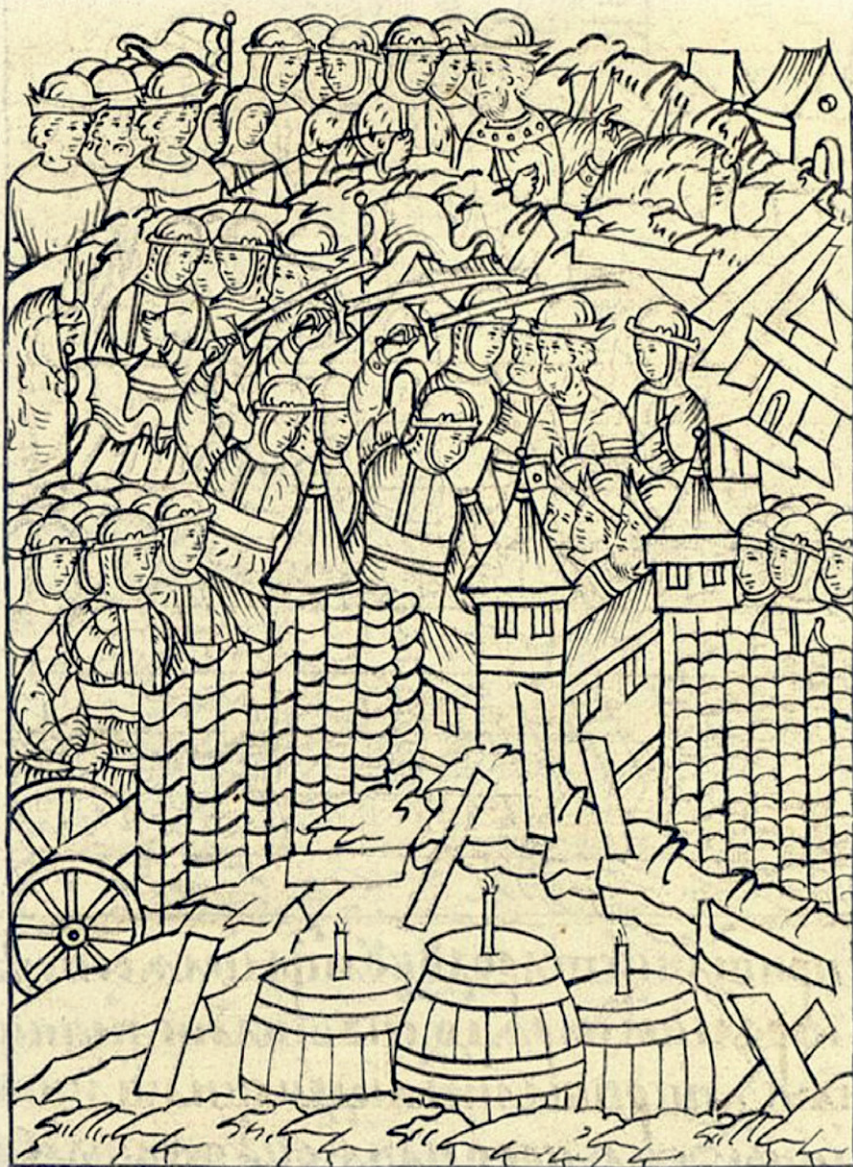


Fig. 10 and 11. The beginning of the mine war in Eastern Europe. The earth-wooden fortifications of Starodub turned impregnable against the Polish-Lithuanian wall-crushing guns. However, they were blown up by the enemy's underground charge and the





fortress was stormed into the opened breach. *The Russian Illustrated Anthological Chronicle of the Sixteenth Century. The Tsardom Book*, Moscow. The Russian State Historical Museum, Л. 113 and 113 об. Courtesy of Runivers, Russia.

fighting in Livonia against the Swedes and Muscovites require the infantry with firearms. The siege, taking and keeping of the castles and blockhouses were the main troops' commitment. The seasonal schedule of the levy's service became another issue since the fighting in Livonia continued around the year. When in 1562 it became clear that the conflict over Livonia would spread to all giant borderlands with Muscovy, the levy looked inadequate to the challenge. When in the winter of 1563, in the middle between the normal fighting seasons, the Muscovites attacked Polotsk, the Lithuanians were able to field the relief corps of only 2,000 men of the levy. The city was abandoned and surrendered. The attempt to enforce on the gentry more rigid rules of service via the Diet's legislation failed and the mobilizations of the levy in 1564, 1565 and 1566 were a setback. The desperate *Sejm* of 1567 declared a personal call-up of all gentry and introduced the mobilization of peasantry and townsfolk with spears and handguns to make up the infantry that the Lithuanian army needed to oppose the Muscovite arrogation of the borderland by advancing small earth-wooden castles to the key locations. The authorities managed to assemble 28,000 troops but after a couple of months stay in the camp at Molodechno the levy walked apart.<sup>327</sup>

Although Yanushkevich states that the fast-growing Lithuanian professional army was "below expectations," its performance was a striking contrast to the levy's shortcomings.<sup>328</sup> In fact, the Lithuanian professional army before the conflict over Livonia never existed as a standing force, but was always recruited for a campaign or two and then dismissed. Only a few hundred of the professional troops served as the court bodyguard. Lithuania fielded the professional armies only half of a dozen times since its civil war in the first third of the 15<sup>th</sup> century, in the aborted campaign against Muscovy in 1480, in the allied campaign with Poland against Moldavia in 1497, and against Muscovy in 1500 to 1503, 1508, 1514, 1535. It never numbered more than 2,000 to 4,000 men. The professional part of the Lithuanian army always consisted of the self-minded Polish corps, with the native Lithuanian professional units only appearing in the last conflict, the Starodub War. Since 1560, the professional cavalry and infantry were hired to garrison the castles in southern Livonia that asked for Lithuanian protection, on a standing basis. From 1565 to 1567 they numbered 3,000 men. The professional troops of the Livonian Order that switched to the Lithuanian service were very important to wrestle central Livonia from the Swedes who were the

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327 Янушкевіч, *Ливонская война*, Гл. 2.1

328 Янушкевіч, *Ливонская война*, Гл. 2.2

pioneers of infantry warfare in Northern Europe.

Nevertheless, the main successes of the new Lithuanian professional troops were achieved in the borderlands against the Muscovites. In 1664, the Lithuanian professional army of 6,000 to 10,000 men ambushed and defeated the Muscovite corps at Ula near Polotsk.<sup>329</sup> In 1667, near Lake Susha the Lithuanian professional corps of 2,000 men destroyed by surprise the Muscovite troops in their night camp.<sup>330</sup> In the same year, the Lithuanian professional corps of 3,000 men defeated the Russian troops near fort Kopiye.<sup>331</sup> And in 1568, 1,700-strong Lithuanian professional corps took by surprise the fort Ula that the levy of 18,000 men unsuccessfully sieged and stormed a few months before.<sup>332</sup> The performance of the Lithuanian professional troops seemed significantly superior to the levy's incapability. Marek Plewczyński advises that a large part of the Lithuanian infantry was recruited from the local Lithuanian Cossacks, the men of free social stock, and marginals.<sup>333</sup> It is one of the intrinsic features of the new military labor of the military revolution epoch, that searched the loose pockets of the rigid late medieval social arrangements. Besides the locals, the Lithuanian government hired 7,000 to 10,000 contracted mercenaries from Poland in 1565 to 1566.<sup>334</sup> Just in a decade, Lithuanian warfare achieved the extraordinary transformation. All three principal military reforms of Renaissance were implemented, the change of the cavalry to infantry, cold steel to firearms, social forces of the levy and militia to professional men. And the Lithuanian administration learned to recruit and maintain this army for a few years in a row.

Andrey Yanushkevich shows the fast development of the Lithuanian finances during the Livonian War that allowed Lithuania to field a numerous, permanent and capable professional army. In its first stage, 1558 to 1563, the Lithuanian army was financed in the traditional way, from the income of the grand prince's domain and two emergency public taxes introduced by the *Sejm*, the land tax, *serebshchina*, and poll tax, *pogolovshchina*. The public taxes were badly paid and collected, and the main financial burden of war was born by the domain.<sup>335</sup> The Muscovite grab of Polotsk in 1563 changed the stance of Poland. Robert

329 Янушкевич, *Ливонская война*, 76–77, 172

330 Янушкевич, *Ливонская война*, 101, 182

331 Янушкевич, *Ливонская война*, 102

332 Kupisz, *Polock 1579*, 58; Янушкевич, *Ливонская война*, 105

333 Plewczyński, "Kozacy w walkach z Moskwą nad Dźwinią," 62–64

334 Янушкевич, *Ливонская война*, 199–200

335 Янушкевич, *Ливонская война*, Гл. 3.1



Frost relates that the Polish *Sejm* voted in 1563 and 1565 for the emergency taxes most of which were channeled to support the Lithuanian professional army, and the volume of the Polish subsidies was three to five times bigger than the Lithuanian spending from their sources.<sup>336</sup> Marek Plewczyński mentions that the Polish *Sejm* allowed the Brandenburg elector, *kurfürst*, the hereditary possession of the Duchy of Prussia in exchange for his large loan to Lithuania.<sup>337</sup> Dariusz Kupisz states that in 1564 to 1565 the Polish *Sejm* subsidized the hiring of 10,000 to 12,000 men for the Lithuanian permanent army while the Lithuanian treasury was able to cover the cost of half as much.<sup>338</sup> The Polish subsidies dominated the Lithuanian war finances during the Livonian War, in 1564 to 1567. In 1567 to 1569, new drastic measures were introduced to improve the payment and collection of the Lithuanian public taxes. They followed the sharp administrative reform of 1565 and the introduction of the new Law Codification, Lithuanian *Statut* of 1566. A formidable increase in the volume of the treasury's incomes and their stability was the result of the reform. After the reform, Lithuania became able to recruit and support a permanent professional army of 20,000 to 25,000 men.<sup>339</sup> Lithuania managed to bear this strain five years in a row, despite the elimination of its sovereignty and annexation of its half by the Polish Crown according to the *Unia* of Lublin in 1569.

Despite the improved Lithuanian position in the Livonian War which the Lithuanian professionals achieved, the Lithuanian magnates gave up on the political manipulation of King Sigismund II Augustus and allowed him to accomplish the *Unia* of Lublin with Poland in 1569.<sup>340</sup> On the eve of the *Unia*, the Lithuanians were looking for a larger involvement of Poland in their war against Muscovy; in particular, they requested that the Poles finance the professional troops. However, the *Unia* of Lublin turned out to be another thing completely. It ended Lithuanian sovereignty and transferred to the Polish Crown the Lithuanian South-Western Rus, contemporary Ukraine. From the eve of the Starodub Campaign in 1535 to the Lublin *Unia* of 1569, Lithuania significantly strengthened its structures of the military state establishing the standing professional army and fiscal system to support it. The Lithuanian military reforms were more diversified and had greater perspective than the Polish military arrangement

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336 Frost, *The Making of the Polish-Lithuanian Union*, 471, 473, 480

337 Plewczyński, "Koalicje antymoskiewskie Jagiellonów," 90

338 Kupisz, "The Polish-Lithuanian Army in the Reign of King Stefan Bathory," 67

339 Янушкевич, *Ливонская война*, Гл. 3.1

340 See Frost, *The Making of the Polish-Lithuanian Union*, VII,38 and VII,39



which Lithuania copied after the Lublin *Unia* because Lithuania had in its agenda not only a professional native cavalry and foreign mercenary infantry but also the troops of the broad recruitment of the freemen and marginal, Ukrainian and domestic Cossacks. It was a true mass army with a national interest that was based on advanced gunpowder warfare. And the Lithuanian fiscal system operated not only with the resources of the monarch's domain but also with nationwide land and poll taxation. However, the conservative Lithuanian society of which the magnate factions were the political agents turned to the outside authority, the Polish magnate-*szlachta* corporation, looking to return to the traditional forms of power and military arrangements. The turn was futile, and the burden of war remained, but with the cancellation of Lithuanian sovereignty, all the prospects of the Lithuanian fiscal-military dynamic were lost. Lithuania was dragged into modernity clanging to the Polish tail.

Was it a progressive, life-saving solution? Yes, it was for the short period of the First Northern War. Probably the Lithuanian ability to mobilize and support the permanent army was strengthened by the Lublin *Unia* of 1569 because the Lithuanian war efforts were transferred under the administration of the Polish *Sejm* where the Lithuanians composed just a fragmented minority and the Poles could have squeezed former Lithuania, especially its domain, hard. The strong Lithuanian participation in the Polotsk, Velikiye Luki and Pskov campaigns of King Stefan Batory in 1579 to 1582 was the fruit of this resource mobilization. The expectation of the prominent commanders of the Lithuanian professional army, like Mikołaj Radziwiłł the Red, Prince Roman Sanguszko and Filon Kmita, for the offensive war against Muscovy<sup>341</sup> were accomplished, although in a way that the latter two could not appreciate.<sup>342</sup> Wasn't the Lithuanian cost exorbitant, not in a sense of ethnic identity and other cultural matters, but in a sense of the fiscal-military, nation-state prospects of Lithuania?

*The option of expansionist stability was explored.*

Was there a third way of escaping the rift between a vigorous mobilizational political regime and an overwhelmingly marauded society besides sliding into civil war, as in the case of Muscovy, or succumbing to outer sovereignty, as in the case of Lithuania and the Crimean Khanate? Yes, there was. The Polish-Lithuanian Commonwealth moved on this path when its army sieged, stormed and

341 Grala, "Od „bellum defensivum” do „bellum externum,” 20

342 Koluzaeva, "Within One's Inner Circle."

forced the surrender of the Muscovite fortress of Polotsk on 10 to 31 August 1579. The siege was the most challenging kind of military engagement for the state's capability to mobilize and supply the mass army in the Early Modern Period.<sup>343</sup> The Polish-Lithuanian performance at Polotsk in 1579 and following siege campaigns against Muscovy is the best material for verifying the routine historiographical estimation of the Polish-Lithuanian military and its interaction with the political regime and society.

For Jan Glete, the Spanish fiscal-military state "had been built on different socio-political foundations than those of the [absolutist] northern powers."<sup>344</sup> Was a fiscal-military state, similar to the Spanish one, rising in the same epoch in Poland? Polish historians Krzysztof Boroda and Piotr Guzowski demonstrate how the political movement for the revision of royal domain property and income, *Egzekucja Praw*, created the new financial constitution in Poland which was finalized at the *Sejm* of 1562. The *Sejm* claimed the return of all domain property and royal prerogatives, rented, mortgaged and farmed out from 1504 when the ban on such deals was first issued. The *Sejm* also ordered the separation of a quarter of all royal revenue to finance the standing corps of the southern border defense, which was renamed *Wojsko Kwarciane*. In 1569 the treasury collected three times more revenues than in 1533.<sup>345</sup> In the 1530s to the 1560s, the *Sejm* movement *Egzekucja Praw* effectively ran the work that in the West-European countries was an agenda of absolutist governments. The difference did not erase the fiscal-military agenda of this work. Norman Davies shows that from the financial year 1576 to 1577 to the financial year 1585 to 1586 the royal revenues nearly doubled with the main increase in the customs, especially maritime, and the revenue of the Lithuanian domain.<sup>346</sup> The *Egzekucja Praw* soared with the introduction of the free election of the king, *Wolna Elekcja*. The Convocation, Election, and Coronation *Sejms* of 1573 to 1574 established that it was not the person of a king or royal power in general but the *szlachta* class that was the possessor and master of the Polish-Lithuanian sovereignty. A king became an elected person to whom a part of this sovereignty was entrusted as the royal authority over the matters defined by the Commonwealth.<sup>347</sup> This ideology of state power was an advantage when the *szlachta* and magnates consolidated

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343 Parrot, *The Business of War*, 149

344 Glete, *War and the State in Early Modern Europe*, 29

345 Boroda, and Guzowski, "From King's Finance to Public Finance," 464–65

346 Davies, Norman, *God's Playground*, 322–23

347 Кареев, *Исторический очерк Польского сейма*, 46–47

over some objectives and it was a disadvantage when they quarrelled. The advantages worked well during the campaigns of Stephen Batory against Muscovy and a couple of decades later, but then the disagreements accrued on a disastrous scale. Two opposite political trends, of effective resource mobilization for war and debilitation of royal power, were born together in the circumstances of the conflict over Livonia.

During the preceding century, the Polish professional army normally numbered a couple of thousand commissioned cavalry and contracted infantry. Larger recruitments were rare. The Breslau expedition of King Kasimir III in 1474, the Moldavian expedition of King John-Albert in 1497, build-up against Muscovy in 1508 and the Teutons in 1519 – 1521, and three of Jan Tarnowski's ventures, against Moldavia in 1531 and 1538, and Muscovy in 1535 were carried out with 3,000 to 5,000 paid men. At Polotsk in 1579, the Polish army consisted of around 11,000 hired professionals. The campaign of 1579 opened a period of half-decade when the Polish-Lithuanian Commonwealth fielded the professional armies of 40,000 to 80,000 men on a standing basis not only for the normal late spring to early autumn campaign season but throughout the year.<sup>348</sup> In the last third of the 16<sup>th</sup> century, allegedly autocratic Muscovy and absolutist-charged Sweden, that opposed the Commonwealth, achieved nothing similar to the Polish-Lithuanian level of war mobilization and numbers of standing troops. Observing the mobilization achievements of the Polish Crown for King Stefan Batory's campaigns, Dariusz Kupisz claims that "the Polish-Lithuanian state achieved a force mobilization capability it had never had before"<sup>349</sup> and "never again would the Commonwealth exert itself for the army on such a scale or for such duration. Never again would so many foreign troops be hired."<sup>350</sup> It was the absolute achievement of Stephen Batory. But it wasn't absolutist. Was it the example of the effective resource mobilization to war that was executed by the non-absolutist public authority? Might the amateur enthusiasts of the *Sejm* commissions have had the same potential for mobilization and allocation of resources to war as the hierarchical professional bureaucracy? It is the question of prosopographic research. Who were the executors of the *Egzekucja Praw* in person? Were they professional soldiers, clerks, or boring aristocrats fresh from Italian universities? Were they addicts of an abstract idea or some distinct social group?

348 Kupisz, *Polock 1579*, 169; Kupisz, *Psków 1581* – 82, 36, 71, 77, 80

349 Kupisz, "The Polish-Lithuanian Army in the Reign of King Stefan Bathory," 92

350 Kupisz, "The Polish-Lithuanian Army in the Reign of King Stefan Bathory," 70

The nature of the Commonwealth's extraordinary mobilization was revealed on 24 January 1588 in the battle of Byczyna. The Polish standing army supporting the Swedish pretender to the Polish throne Prince Sigismund Vasa destroyed the enthusiastic forces of the Austrian pretender, Archduke Maximilian II Hapsburg. The battle of Byczyna was not a big engagement, however it demonstrated that the political forces that relied on the professional army had much better prospects than the political forces that relied on popular support. The control of the standing army might have produced the type of dictatorship of which royal absolutism was only one of the forms. The constitution of the Polish-Lithuanian Commonwealth, which was forged in the political struggle in the 1560s to 1570s, was not the constitution of the *szlachta* corporation interacting with the royal power. A *Pacta Conventa*, the constitution established with the enthronement of the first Polish free-elected king, Henryk Walezy, also Henry III of France, introduced the governing royal council, *Senat*, of 16 members, that ran the executive power. The royal power was declared not to be self-sufficient but a king's authority within the *Senat*.<sup>351</sup> It was the centralized oligarchic dictatorship that was masked by the *szlachta* Republic and dominated the royal power due to the oligarchic control over the standing army. Chancellor Jan Zamoyski, the inventor of this construction, became the dictator *de facto*. Zamoyski built up the Polish-Lithuanian standing army together with King Stephen Bathory, the successes of Zamoyski during the campaigns against Muscovy secured him the support of the military. At the *Sejm* of 1585 to 1586, the lower *szlachta* mutinied against Zamoyski's dictatorship. The upheaval was suppressed by King Stephen Bathory's retinue of 1,500 cavalry and Zamoyski's retinue of 1,200 infantry of the standing army acting together.<sup>352</sup> The extraordinary resource mobilization of the Polish-Lithuanian Commonwealth in the last decades of the 16<sup>th</sup> century looks less as a triumph of the pseudo-republican institutions and more as coercion by the dictatorship of King Stephen Batory and Chancellor Jan Zamoyski that they established by employing their control over the Commonwealth's standing army. It was a military dictatorship *par excellence*.

The Polish-Lithuanian Commonwealth turned to expansion, while Swedish gains in the Baltics were cut short and Muscovite ambitions suppressed. In 1590 and again in 1595, Zamoyski commanded the Polish professional army that prevented the far superior in numbers Ottoman-Crimean army from convert-

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351 Bues, "The Formation of the Polish-Lithuanian Monarchy," 14; Lukowski, "The Szlachta and the Monarchy," 144-45

352 Davies, Norman, *God's Playground*, 257





Fig. 12. The launchpad of the Muscovite autocracy. The brutal suppression of the Novgorodian Republic with its specific political structure and social estates in the winter of 1488 became the pattern of the Muscovite rulers' absolute power over their subjects. *The Russian Illustrated Anthological Chronicle of the Sixteenth Century. The Shumilov Volume*, Moscow. The Russian National Library, JL 314 о6. Courtesy of Runivers, Russia.



ing Moldavia into the Ottoman province and invading the Commonwealth.<sup>353</sup> In the subsequent truce, the Crimean khan abandoned his supreme suzerainty over South-Western Rus that reduced the Lithuanian grand prince to the status of a usufruct of these territories in exchange for tribute.<sup>354</sup> The Polish-Lithuanian Commonwealth became the master of the steppe frontier, the Ukraine, and immediately started to allot the frontier lands to the Polish magnates. The Polish-led colonization of the Ukraine unfolded, and the migration of the agricultural population from Eastern Volhynia to Eastern Podolia and Kievan Land was its main content. It became the critical component of Ukrainian national consolidation.<sup>355</sup> Zamoyski effectively utilized the Commonwealth's standing army in favor of the expansionist Polish frontier magnates, the faction to which he belonged.<sup>356</sup> At the same time Zamoyski introduced a royal register of the salaried privileged service for the Dnieper Cossacks and proposed the objectives for their fighting zeal from Moldavia to the Baltics. The merger of Muscovy became the next point in his agenda and he looked to the standing army, magnate troops and Cossack bands as its main tools.<sup>357</sup>

In 1584, Ivan Shuysky, King Stephen Bathory's and Jan Zamoyski's opponent in the Pskov campaign of 1581 to 1582, and Nikita Yurjev, seasoned commander of the Livonian front, determined the succession of the Muscovite throne and composed the government after the death of Tsar Ivan IV by the pressure of the standing troops under their hand.<sup>358</sup> It was an expansionist government that launched the offensive into the sparsely populated steppe frontier. A bunch of new fortresses were founded there, including Voronezh, Livny, Saratov, Ufa, Samara, Tsaritsyn. They were garrisoned and settled not with the traditional Muscovite duet of enserfed peasantry and cavalry servicemen but with the freemen and marginals, domestic Cossacks, adept with firearms.<sup>359</sup> In the north-east, the Muscovite fur entrepreneurs, colonizing Cossacks and fiscal bureaucracy rushed into Siberia.<sup>360</sup> The fighting superiority over the Crimeans

353 Podhorodecki, *Slawni hetmani Rzeczypospolitej*, 136, 138–45, 153–60

354 Kołodziejczyk, *The Crimean Khanate and Poland-Lithuania*, 112–14

355 Borzecki, "The Union of Lublin," 54–58; Бойко, *Селянство України*, 187–89

356 See about Zamoyski's entourage and colonization activity, Bobicescu, "Tyranny and colonization."

357 Флоря, *Русско-польские отношения*, 120–40

358 Павлов, *Государев двор и политическая борьба*, 30–31; Широгородов, *Украинская война. Кн.3. Встречное наступление*, 769–71

359 Загоровский, *История вхождения центрального Черноземья*, Гл. V

360 See Witzenrath, *Cossacks and the Russian Empire*.

and Ottomans that was seen in the amphibious struggle over Astrakhan in 1569 and battle of Molodi in 1572 was vigorously used for the impressive expansion of the Muscovite regnum.

Poland and Muscovy were not alone in the construction of the military oligarchic model of the government by the close of the first circle of the military revolution cycle. Despite its notorious absolutism, Sweden was another example of a realm where the absolutist and oligarchic trends collided and cooperated.<sup>361</sup> The Ottoman empire was also converted to an oligarchy of power clans despite its despotic sultanism.<sup>362</sup> Both Axel Oxenstierna and Köprülü Mehmed Pasha, Swedish and Ottoman rulers, respectively, in the first and second thirds of the 17<sup>th</sup> century were exemplary dictators whose power was based on control over the standing army, extraction and allocation of resources to war. It could be proposed that the oligarchic model tending to military dictatorship became a more widespread form of the early fiscal-military state than royal absolutism in its inceptive form over all of Europe from the West to East. It was the regime of the oligarchic model that was crushed by the wave of civil wars that had been rolling through Europe since the last third of the 16<sup>th</sup> century when the first cycle of the military revolution came to a close.

## CONCLUSION.

### *Agents of military guidance over society.*

The 20 engagements in Eastern Europe that are presented in Table 1 to illustrate the current essay demonstrate how combat produced sound military innovations that were able to create new social groups and political institutions and destroy and disfigure the existing ones. Meanwhile, the capability of combat to act as the socio-political driver did not exist throughout all epochs. It is the specific achievement of the period of the military revolution. The impact of combat on social structure and political constitutions is very important for military history because only the military changes which transformed society and its regimes to suit their needs could become truly effective in combat.

One of the main issues of the military revolution debates consists in the difficulty of determining exactly what the agents are of the influence of the military

361 Emilsson, "Before the 'European Miracles'," 135; Glete, *War and the State in Early Modern Europe*, 196–97

362 Faroghi, *The Ottoman Empire and the World Around it*, 30; Fodor, Pál, *The Business of State. Ottoman Finance Administration*, 107

affairs on society and political regimes. The study of the socio-military transformation in Eastern Europe reveals that from the establishment of the professional armies in the middle of the 15<sup>th</sup> century their commanders gradually ascended to positions of influence and power over the social leaders who had earlier dominated the political landscape. In the Middle Ages, all social leaders were also military commanders but they commanded social forces that were no more than armed societies, an amalgam of the levy and militia, mercenary bands and private households. These leaders could not have established the aims of military ambitions over society, as they acted as social actors on the military scene. The commanders of the professional armies were of different stock. They promoted the interests of the armed forces that had different priorities than society, including the priorities of resource mobilization for war and military expansion. Their political ascension was based on the consolidation and advance of the new or modified social classes associated with the professional troops. At the beginning of the transformation, they were the *szlachta* of the professional hireling cavalry in Poland and in Muscovy they were men of the landed territorial cavalry, the *pomeshchiks*. These two classes dominated the Polish and Muscovite social hierarchy until the 19<sup>th</sup> century, however their function in the political regime developed under further military changes.

At the end of the 15<sup>th</sup> century in Poland, the monarchical power, cooperating with the Diet, *Sejm*, was controlling the military of the professional armies. In the middle of the 16<sup>th</sup> century, the magnate groups associated with the professional military ascended to control the Polish Diet and take over the royal domain. At the end of the 16<sup>th</sup> century, the supreme general of the standing army, Crown *Hetman* Jan Zamoyski dominated the monarchical power and legislative and determined the royal election by the actions of the standing troops at his disposal.

In the second half of the 15<sup>th</sup> century in Muscovy, the grand princes controlled the new territorial cavalry army indisputably via their military chancery. In the middle of the 16<sup>th</sup> century, the faction associated with the territorial cavalry army overturned the government and established the army as the leading political estate. At the end of the 16<sup>th</sup> century, the supreme generals of the Muscovite army, Ivan Shuysky and Nikita Yurjev ran the government in Muscovy and decided the succession of the throne by the pressure of the standing troops under their command.

The political rise of the commanders of the professional armies was the leverage of military power over society. They subjugated the society to war by

harsh mobilization of resources and enforced on people the objectives of expansion. The military dictators also reshaped and mutilated the social groups and political institutions if they hindered their warmongering ambitions. They did it not virtually but physically, as Zamoyski did when his troopers pressed the mutinous szlachta at the *Sejms*, and kidnapped and beheaded the leader of *szlachta* liberty Samuel Zborowski in 1584.<sup>363</sup> Shuysky and Yurjev did so when their troopers shot over the *Sobor* crowds' heads and chased them out of the Kremlin with their halberds.<sup>364</sup> If the combat-seasoned military comes to power what else can one expect? The ascension of the professional armies to positions of power over societies is the important nature of the military revolution cycle. The grab of the political institutions by the professional military is the tool of this domination.

*The social reaction to the military changes.*

The rise of the “non-social” professional forces became the impetus for a very profound political change, the estate corporatization of sovereignty. The takeover of the Polish and then Lithuanian sovereignty from the monarchy by the corporation of nobility, which started in the Thirteen Years War in the middle of the 15<sup>th</sup> century with the *Nieszawa Statutes*, intensified in the period of the Starodub campaign of 1535 and accomplished its objectives with the *Pacta Conventa* a century later. The conversion of the royal power into the elected office was its high point. It is only one example of the corporatization of sovereignty. In Muscovy, under the rigid crust of the seeming autocracy that often misguides researchers, the transfer of political power from the monarchical to the estate corporative institutions was similarly intensive. It started during the Ugra standoff in 1480 when the first Diet of the estates' representatives was constituted, and it intensified after the battle over the Rostislavl fords in 1541. In the darkest years of Tsar Ivan IV's terror, the Muscovite Diet, *Sobor*, government, *Duma*, and local gentry commissions increased their control over the state authority at all levels at a rate that only the tsar's violent demeanor limited their “absolutism.”<sup>365</sup> The conversion of the tsar's power into elected office soon after Ivan IV's death was another example of the corporatization of sovereignty.

363 Podhorodecki, *Slawni hetmani Rzeczypospolitej*, 117–18

364 Зимин, В канун грозных потрясений, 114–16

365 See Носов, Становление сословно-представительных учреждений; Скрынников, *Великий государь Иоанн Васильевич Грозный*, Кн. 1, 437–38; Шмидт, Становление Российского самодержавства, 120–261

It was the main means of social adaptation to the military changes. It served society to absorb the new social groups strengthened by the military changes, and accommodate them without breaking the existing social order completely. In some moment, comforting to the strengthened social groups, the political regimes tended to reduce social mutability preventing society from losing its cohesion. We have seen exactly this move in the Polish and Lithuanian regulation on the eve of the Starodub War in the 1530s and the Muscovite regulation in the aftermath of the Rostislavl battle in the 1540s. This conservative solution was temporary and fragile because the pressure of the military changes was increasing.

The corporatization of sovereignty was not the highest point of the political transformation in the first circle of the military revolution. Further development of the standing armies led to the ascendance of their commanders to the top ranks of political power and the establishment of the oligarchic military dictate under the disguise of the Republic of Nobles in the Polish-Lithuanian case and tsar autocracy in the Muscovite case. The oligarchic military dictate was the highest point of the corporatization of sovereignty, a dictatorship based on the use of the standing armies as the political tool to subjugate the societies to the necessities of war. Another way was to give up (as in the Crimean case) or delegate (as in the Lithuanian case) sovereignty to the outer masters (respectively the Ottomans and Polish *szlachta*-magnate corporation). It was like a closing-eyes-to-horror game because the challenge of the transformation was inevitable.

Mark Charles Fissel asks, “did the ruling classes (e.g., the nobility) adapt and exploit the transformation to the fiscal-military state allegedly caused by the military revolution?”<sup>366</sup> Yes, they did, if the nobility kept controlling the extraction and allocation of resources for war, strategic direction and the command of the armed forces. It is the case when the nobility arrogated sovereignty and established an oligarchy based on the standing army, corporate military dictatorship. Alas, this kind of social adaptation to the military changes did not survive for long. Oligarchy was the regime with which the emerging East European nations came through the stage of civil war, the second circle of the military revolution, to collapse.

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<sup>366</sup> Fissel, “From the Gunpowder Age Military Revolution,” 355



*The dictating minority.*

One of the prime rules of social revolution is the claim that it is the active minority that accomplishes the overthrow of the existing social order, not the passive majority. Furthermore, it is the minority that dictates the new political regime. Is this social rule invalid for the military revolution? No, it isn't. The numerical domination of the cavalry with its "feudal" lineage in the forces of the East European countries did not mean that it was decisive on the battlefield or central in the nation's military build-up. The cavalry was also not a kind of force that produced the strongest impulses toward the socio-political transformation by the end of the 16<sup>th</sup> century. The innovative minority of forces, gunpowder infantry and artillery, were driving the transformation while the traditional majority of the cavalry dragged behind. For Robert Frost, the "cavalry was [...] vital for the conduct of warfare [...] on the great plains of Eastern Europe [because] infantry was fundamentally vulnerable without the protection of cavalry."<sup>367</sup> In the East of Europe as well as in its West, combat was fought not on the plains but on fields, much more limited terrain. Eastern Europe besides the steppes was less favorable for cavalry warfare than Western Europe. It was a plane of forest, swamps, rivers, and ravines, with small tilled plots interspersed between them, while roads, bridges, forest and swamp passes were virtually absent. Eastern Europe enjoyed fewer good fields than Western Europe for the deployment of large cavalry masses where the cavalry could have used its potential to maneuver and shock. The East-European generals spent much effort driving the enemy to the rare terrain suitable for deployment of their large cavalry armies. Nevertheless, they stuck to the cavalry and did not want to change it for infantry despite the latter being much more suitable on East European battle terrain. Why?

One answer is the adhesion to the operational warfare that the East-European armies inherited from the style of war of the former warfighting hegemon of the subcontinent, the Mongolian Golden Horde. The raiding frequently in Eastern Europe had the nature not of a *Kleinkrieg* but an operational warfare. The second answer is more intricate and seemingly absurd since the reason for the East-European numerical cavalry dominance was the high fighting capability of the subcontinent's infantry after it adopted the firearms and wagon-camp array. Due to the wagon-camp array (*wagenburg*, *tabur*, *oboz*), the East-European infantry was better protected against the cavalry than the West-European infantry which utilized the pike formation and light fences. Since the battle of Kletsk in

<sup>367</sup> Frost, "The Polish-Lithuanian Commonwealth and the 'Military Revolution'," 27

1506, the warfighting history of Eastern Europe is full of the wagon-camp infantry array's victories over the cavalry of all regional varieties, including armored lancers, mailed swordsmen and light archers. The opposite outcomes are rare and due to special conditions. Despite the numerical superiority of the East-European cavalry the outcome of most of the destiny-forging battles in Eastern Europe was determined by the action of the infantry with firearms deployed in the wagon-camp array. The outcome of sieges was also determined invariably by the action of the professional infantry and not the dismounted cavalry. The numerical abundance of the cavalry mustn't disturb historians when they look for the military revolution in Eastern Europe. As we have sought, the infantry with firearms, amphibious forces, artillery and fortifications of the gunpowder epoch were the military revolution's agent on the battlefield and its leverage over the socio-political transformation.

The concept of the military revolution has nothing in common with technological determinism because military affairs sort out the technology through the filter of victory and defeat that are unpredictable. Fighting is a kind of human activity with a notably tortuous outcome. Before combat, it is impossible to judge for sure what kinds of weapon, organization of troops, tactics and leadership will be victorious and what kinds are doomed. The political leaders were unable to choose and develop the kinds of troops and weaponry that were victorious because they were an enigma. However, when the victorious practice establishes itself due to a chain of victories, the troops that produce it retain the leverage to guide, first, the military development and then the socio-political transformation.

If the society and political regime did not follow the guide, the new kinds of warfare change them automatically and if they were not changeable the new kinds of warfare would destroy them. At the beginning of the first circle of the military revolution, the new kinds of cavalry warfare linked to the professional forces transformed the political regime and social constitution of Poland and Muscovy. While at the end of the circle, the new kinds of warfare linked to the gunpowder infantry moved to destroy their political regimes and social constitution through civil war. The Muscovite doom during the Time of Troubles came from the domestic Cossacks and frontier migrants that utilized gunpowder warfare as well as the Ukrainian Cossacks who brought the doom on the Polish-Lithuanian Commonwealth during the Deluge. The union of the Muscovite urban centers financed the army of the domestic Cossacks to resurrect the state power in Muscovy with absolutist potential. Nobody of this sort could be found to resurrect the Commonwealth due to the suppression of the towns by the mag-

nates and *szlachta* and ethnic-religious alienation of the Ukrainian Cossacks by the Republic of Nobles. In both realms, Muscovy and the Commonwealth, the cavalry-based social class of the gentry looked like the military majority and were politically dominant but their history had been shaped by the marginal's and commoner's infantry with firearms.

*Towards the stage of civil war.*

The Polish, Lithuanian, Muscovite, and Crimean battlefield innovations produced the mighty socio-political transformation in the same way as the West-European battlefield innovations produced them. Their main similarity was in the development curve bending to civil war by the end of the first circle of the military revolution cycle, a notion established by Jeremy Black. Probably, the corporatization of sovereignty, oligarchic government and the military leaders coming to power was not only the East-European socio-political trend but the form of pan-European progress as well. This trend requires wider comparative research to become more than just an observation.

When Jan Glete compares Spain and Polish-Lithuanian Commonwealth as the two powers that failed to implement the model of the fiscal-military state, he affirms that the latter unlike the former “never had a strong permanent army or navy.”<sup>368</sup> Of course, it is an error imposed by historiographic routine<sup>369</sup> and we have witnessed the large regular standing army that King Stephan Batory fielded against Muscovy and his Chancellor Jan Zamoyski employed to maintain his dictatorial power, to seat the pretender he liked on the throne and deal with the Ottoman rivalry in Moldavia and Ukraine, and Swedish rivalry in the Baltics, in a way he approved of. Why was Muscovy, with all its autocracy defined by Marshall Poe, not able but Poland-Lithuania, with all its republicanism declared by Robert Frost, was able to support five years in a row the army of some 40,000 to 80,000 professionals plus the regional forces? Was Poland-Lithuania more a fiscal-military state than Muscovy? Were any of them a fiscal-military state?

Neither the Polish-Lithuanian Commonwealth nor Muscovy were fiscal-military states in the first circle of the military revolution cycle. Chester Dunning and Norman Smith insist that Muscovy was a fiscal-military state in the 16<sup>th</sup> century due to the steady growth of its “central state fiscal and military ad-

368 Glete, *War and the State in Early Modern Europe*, 91

369 See it for example two otherwise good books on the topic, Anderson, *Lineages of the Absolutist State*, 286–88; Ertman, *Birth of the Leviathan*, 296–97;

ministration” as revealed by Poe.<sup>370</sup> Their supposition contradicts at least two principal conclusions that were made by John Brewer, founder of the concept of the fiscal-military state in his on-case study on the English state from 1688 to 1783, and Jan Glete, the concept’s advocate for wider research in the Early Modern Period. First, the establishment of the fiscal-military state was not a gradual accumulation of the fiscal and military craft, but a revolutionary implementation of the models that had been invented before but were abandoned due to the absence of the suitable socio-political conditions. The implementation required the social upheaval and change of the political regime, the Revolution in England, the breaking-out of Sweden from the Kalmar Union and revolt against the Hapsburgs in the Netherlands.<sup>371</sup> And second, the establishment of the fiscal-military state required the dominant social group to be interested in the standing army and military expansion. Although Brewer avoids nominating the particular economic and political beneficiaries of the English fiscal-military state, his narrative points out the social groups linked to the merchant activity, industry and urbanization, and landed gentry.<sup>372</sup> Glete considers that the Dutch fiscal-military state was induced by the demand of the Republic’s broad elite and entrepreneurial middle class.<sup>373</sup> And the Swedish fiscal-military state was like a joint venture of the protection-selling Vasa dynasty and the peasantry buying protection with a minor share to the noble-officials of the army, navy and administration.<sup>374</sup> Glete abstains from pointing out the upheaval that accelerated the fiscal-military development in Hapsburg Spain, he also did not define the social groups which were interested in the Spanish imperial venture. Maybe the bare dynastic start of this venture and hesitation of its social base were the cause of the venture’s collapse.

In 16<sup>th</sup> century Muscovy, neither the conditions to implement the model of the fiscal-military state nor a strong enough social base for it existed. Although Chester Dunning considers Muscovy “a somewhat primitive but highly effective version of the fiscal-military state” in the 16<sup>th</sup> century,<sup>375</sup> he profoundly demonstrates that the Muscovite society split over the limits of state power and resource mobilization. Society and its political regime were far from a con-

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370 Dunning, and Smith, “Moving beyond Absolutism,” 42

371 Brewer, *The Sinews of Power*, 17–20, 109–115; Glete, *War and the State in Early Modern Europe*, 27–28

372 Brewer, *The Sinews of Power*, 136–39, 147–48, 169

373 Glete, *War and the State in Early Modern Europe*, 154

374 Glete, *War and the State in Early Modern Europe*, 194–95

375 Dunning, “The Preconditions of Modern Russia’s First Civil War,” 123





Fig. 13. Tsar Michael (Mikhail) I is normally considered a weak co-ruler of his father the Orthodox Patriarch of Moscow Filaret (Feodor) Romanov. However, it was his reign when the Muscovite model of the fiscal-military state was implemented with the sound effect of the expansionist transformation of Muscovy into the Russian Empire. An unknown artist, equestrian portrait of Tsar Mikhail Fedorovich, the second half of the 17th century. The State Historical Museum, Russia, via the Google Cultural Institute. The picture is authored by Crisco 1492, public domain, Wikimedia Commons.



sensus to implement the fiscal-military model and so drifted into civil war.<sup>376</sup> The social groups that could be associated with the standing army, firearms and expansion were alienated by society. They were the frontier military, colonizing garrison-communities and merchant-entrepreneurs of exploration and trade, who were marginal to the Muscovite societal mainstays of power. And it was the allegedly “progressive” bureaucracy associated with the class of cavalry servicemen which alienated them.

The weakness of the Muscovite fiscal-military model became apparent when Boris Godunov, a courtier and civil official, and non-military man, overthrew the military oligarch Ivan Shuysky with the support of Moscow’s urban community and the Orthodox Church and ascended as the ruler of Muscovy in 1586. Godunov’s agents poisoned Shuysky by smoke while sailing on a riverboat and the army’s commanders adherent to Shuysky were sacked.<sup>377</sup> Probably it was exactly the point when the Muscovite fiscal-military model, that had been invented and tested by Tsar Ivan IV the Terrible and his Chancellor Andrey Shchelkalov, was rejected and shelved. Boris Godunov’s rulership and reign as the elected tsar after the Rurikid dynasty died out, transferred Muscovy into the stage of civil war.

In the Polish-Lithuanian Commonwealth, only the magnates colonizing the Ukraine, the frontier *szlachta* serving in the standing corps of the border defense, and the Ukrainian Cossacks as the militant corporation of the colonization movement, could be associated with the model of the fiscal-military state developed by King Stephen Bathory and Jan Zamoyski. This model was fiercely opposed by the non-colonizing magnates and broad *szlachta*. Envious royal power looked to the Ukraine as its powerhouse. However, Poland had a social constitution and political regime much more rigid than the Lithuanian arrangement. Poland was unable to accommodate and tame the Dnieper Cossackdom in the same way that the Lithuanian rulers had started to do. The Polish Republic of Nobles alienated them by imposing on the Cossacks the ethnic, religious, status and property regulations that fundamentally opposed Cossack values. The Republic of Nobles’ approach to the Dnieper Cossackdom began the countdown to civil war but few people in the Commonwealth were alerted by its repeated alarms. The social consensus about the implementation of the fiscal-military model was absent in the Commonwealth as similarly it was to Muscovy.

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376 Dunning, “The Preconditions of Modern Russia’s First Civil War,” 123–31

377 Зимин, В канун грозных потрясений, 135; Павлов, *Государев двор и политическая борьба*, 36–37

Sigismund Vasa, whom Jan Zamoyski brought to the throne after the death of Stephen Bathory after the victory at Byczyna in 1588, became Zamoyski's wrong choice. The king had a strong personality and harsh temper, and did not play the role of puppet of Zamoyski. At the *Sejm* in 1591, responding to Zamoyski's accusation of being a "tyrant," the king declared that he refused to be commanded by the "usurper" Zamoyski.<sup>378</sup> The conflict between Sigismund Vasa and Zamoyski prevented the Polish political regime from obtaining the concentration of power either by the Vasas' royal absolutism or Zamoyski's dictatorship. After Zamoyski's death in June 1605, a fierce struggle followed between the magnate factions over the dictatorship, known as Zebrzydowski's rebellion, or *rokosz*. Probably it was exactly the point when the Polish-Lithuanian Commonwealth's fiscal-military model, that had been invented and tested by King Stephen Bathory and his Crown *Hetman* Jan Zamoyski, was abandoned.

Was the first circle of the military revolution cycle in Eastern Europe a part of the revolution or was it the pre-revolution? It seems the second conclusion is more accurate because, despite firearms, bastions or similar fortifications, it was professional armies and the rise of infantry that were the striking military innovations but they did not overturn society and political regimes. Society was able to restrain their impact inside the loose pockets of the existing social structure. The political regimes adapted to the military innovations employing the corporatization of sovereignty, oligarchic government and military dictatorship. The models of the fiscal-military state were invented but rejected, and the social classes associated with them were alienated. Warfare exploited society but did not transform it decisively. Civil war was necessary for that ground-breaking transformation.

378 Podhorodecki, *Slawni hetmani Rzeczypospolitej*, 136

*Table 1. Combat in Eastern Europe, from the middle of the 15<sup>th</sup> to the end of the 16<sup>th</sup> centuries.*

1. Event	The Battle of Konitz between the Polish forces and troops of the Teutonic Order, an opening event of the Thirteen Years' War, 1454 – 1466.
Date	18 September 1454
Main properties	The Polish army of 18,000 Polish gentry levy cavalry; 2,000 gentry cavalry and 1,000 mercenary infantry of the Prussian Union confronted the mercenary army of the Teutonic Order of 9,000 cavalry and 6,000 infantry supported by a 500-man garrison from the Konitz fortress.
Course, outcome	The Poles and their Prussians allies were defeated by the Teutons due to their better battlefield discipline and the tactic of interaction between the wagon-camp of their infantry and the countercharge of their cavalry.
2. Event	The battle of Schwetz between the Polish forces and troops of the Teutonic Order, a closing event of the Thirteen Years' War, 1454 – 1466.
Date	17 September 1462
Main properties	The Polish army of 1,000 native hireling cavalry and 800 mercenary infantry confronted the Teutonic mercenary army of 1,000 cavalry and 400 infantry, and 1,200 peasant militiamen.
Course, outcome	Both sides applied the tactic of combining the wagon-camp defensive position and cavalry charge. The Teutons were defeated by the Poles due to their better battlefield discipline and daring deployment of crossbowmen.
3. Event	The battle of the river Shelon between the armies of the Grand Principality of Moscow and Novgorodian Republic.
Date	14 July 1471
Main properties	The Muscovite corps of 3,000 to 5, 000 standing court cavalry and 1,500 mercenary Tatar mounted archers confronted around 5,000 of the Novgorodian magnate professional amphibious infantry and the main Novgorodian host consisting of 5,000 to 7, 000 semi-standing middle class cavalry and 10,000 to 15,000 urban militia.
Course, outcome	After the Muscovite corps had defeated two Novgorodian amphibious diversions at its rear, it surprised the Novgorodian host on the crossing over the river Shelon. The Novgorodian militia was routed by the Tatar bow-shooting and spear charge of the Muscovite court cavalry. The political hesitations of the Novgorodian middle class cavalry contributed to the Novgorodian defeat.
4. Event	The combat over the river Ugra's fords during the confrontation between the Muscovite army and troops of the Grand Horde.
Date	8–11 October 1480

Main properties	The Muscovite army of 5,000 regular court cavalry, 2,000 mercenary Kasimov Tatar cavalry and 12,000 semi-standing territorial cavalry with a few pieces of artillery confronted 50,000 to 80,000 nomadic cavalry of the Grand Horde over the river Ugra.
Course, outcome	The Moscow forces prevented the enemy crossing the fords by bow-shooting and occasional artillery shots. The Grand Horde's vanguard was unable to establish a bridgehead for the invasion. The consolidation of the Muscovite dynasty in the face of the danger caused the retreat of the Grand Horde a month later.
5. Event	The Muscovite siege and taking of the Kazan Khanate's capital, the city of Kazan.
Date	May – July 1487
Main properties	The Muscovite joint amphibious and land force of around 5,000 regular court cavalry, 2,000 mercenary Kasimov Tatar cavalry and as many as 30,000 semi-standing territorial cavalry with some dozens of pieces of artillery sieged the Kazan fortress defended by the Kazan army of nearly same numbers divided between the garrison and the relief corps that included numerous Nogay mounted bowmen.
Course, outcome	The Muscovite army implemented many tactical innovations to force Kazan to surrender. The most important of them were the operational focus on the elimination of the Kazan relief corps that harassed the siege from the rear and the uninterrupted encirclement of the city with the earth-timber fortifications, use of the wall-crushing guns and anti-personnel shot.
6. Event	The battles on the river Savranka and village Koperstin between the Polish and Crimean troops.
Date	8 – 9 September 1487
Main properties	The Polish mobile corps of around 5,000 cavalry consisting of 3,000 professional regular court companies; and 2,000 professional troops of Polish magnates and the best men of the Galicia levy chased and attacked the Crimean raiding party consisting of 10,000 Crimean court and nomadic cavalry.

Course, outcome	Just before the Polish attack the Crimean party had split for two equal detachments to march the slaves and spoil off by different trails. The Poles blocked one of them with a makeshift field fortification at the ford over the river Murafa near the village Koperstin in the Western Podolia. They managed to attack the Crimean detachments one after another. The Poles ambushed the first of them on the trail along the river Savranka. The Polish armored cavalry spear-charged and destroyed the Crimeans despite their fierce bow-shooting. At Koperstin, the Crimeans stormed the Polish fortification and slew the Galicia levy but the Polish court companies were fast enough to arrive from the Savranka to surprise and finish off the Crimeans.
7. Event	The Lithuanian assaults on the fort Tyagin and fortress Ochakov.
Date	April 1493; the Fall of 1493
Main properties	A few hundreds of the fresh hiring troops of Kievan governor and Cherkassy administrator with a few hundred mercenary Tatar exiles raided the Crimean fort at Tyagin on the river Dnieper crossing and the Crimean-Ottoman fortress Ochakov. Both fortifications were defended by their small garrisons and the dwellers' militia.
Course, outcome	The Lithuanians and mercenary Tatars stealthily followed the returning Crimean raiding party to Tyagin and overran it by surprise. A few months later they raided and sacked Ochakov's downtown area and burned some Ottoman craft in its port.
8. Event	The battle of Lake Smolino between Muscovite forces and the troops of the Livonian Order, was an episode of coalitional confrontation in Eastern Europe between 1497 and 1503.
Date	13 September 1502
Main properties	The army of the Livonian Order of 15,000 to 25,000 men including 2,500 mercenary heavy cavalry and 3,500 mercenary German infantry, with the balance of Livonian bishopric and urban militia, engaged the Muscovite army of around 18,000 men consisting of 10,000 Novgorodian semi-standing territorial cavalry and 8,000 Pskovian urban militia infantry.
Course, outcome	The Pskovian militia stormed and broke into the Livonian militia's <i>wagenburg</i> but was jammed there by the Livonian reserves. The charge of the Novgorodian cavalry was halted by the columns of German pikemen supported by the handgunners. The Livonian heavy cavalry counter-charged the Novgorodians at home. The Novgorodians evaded being hit and repeatedly attacked the German infantry but failed to break it. The opposition commanders disengaged without a clear winner.
9. Event	The battle of Kletsk between the Lithuanian forces and the raiding corps of the Crimean Khanate.
Date	5 August 1506



Main properties	The Lithuanian army of 6,000 to 10,000 men including 5,000 magnate private troops, gentry levy and 1,000 Polish regular court cavalry, with hundreds of Czech mercenary infantry with the wagon-camp attacked the base camp of the Crimean raiding party of 4,000 to 20,000 court and nomadic cavalry.
Course, outcome	The Lithuanians assaulted the Crimean position with two columns of, first, the levy and, second, professional troops. While the former had been damaged by the Crimean bow-shooting, then ambushed and mostly slain by the Crimeans, the latter stealthily forded a small river and flanked the Crimeans. The Crimeans were jammed between the mercenary handgunners in the wagon-camp and the spear-charge of the professional horsemen. The Crimeans were broken and partly decimated, however, most of them managed to disperse and flee.
10. Event	The Muscovite siege and taking of Smolensk.
Date	16 May – 1 August 1514
Main properties	The Muscovite army of 17,000 to 21,000 men consisting of 2,000 to 3,000 conscripted urban handgunners, 3,000 to 4,000 regular court cavalry, 1,000 to 1,500 mercenary Kasimov Tatar cavalry, 11,000 to 13,500 semi-standing territorial cavalry and a few thousands conscripted peasant siege-workers with a few hundred guns including some heavy pieces made an attempt on the city-fortress of Smolensk. It was a garrison of around 2,000 mercenary handgunners and 2,000 to 3,000 men of the local levy and urban militia with a few hundred guns and fortress handguns.
Course, outcome	Lithuania was not able to deploy the relief army in time due to the slow collection of funds necessary to hire the Polish cavalry and Czech, Polish, Hungarian infantry, and slow gathering together of the levy cavalry. The siege works designed with the assistance of the Italian and German experts allowed effective deployment of the Muscovite artillery. The month-long intensive bombardment ruined some towers, damaged walls and left occupying the city untenable. Under pressure from the town-dwellers and Czech mercenaries the governor gave up on agreeing favourable conditions.
11. Event	The battle of Sokal between the allied Polish and Lithuanian forces, and the Crimean raiding party.
Date	2 August 1519
Main properties	The Polish forces consisted of about 5,000 men including 3,000 gentry levy cavalry, 2,000 cavalry of the court regular companies; and the Lithuanian forces about 2,000 cavalry of the Volhynian gentry levy and magnate private troops engaged the Crimean raiding party of 10,000 to 20,000 court and nomadic tribal cavalry.

Course, outcome	The Crimean position was arranged on the high bank of the river Bug in the ruins of the burned-out town of Sokal with steep slopes and ravines. The Poles forded the Bug but attacking uphill they were decimated by the Crimean bow-shooting. The Lithuanians forded the Bug upstream to envelope the Crimeans but were repulsed. The Poles caught up with the Crimeans in hand-to-hand fighting but they were ambushed in the ruins of the burned town, attacked from different sides and mostly slain. Lithuanians managed to retreat into the castle Sokal and hold out.
12. Event	The combat of Kolomna and the Crimean raid to Moscow.
Date	28 July 1521 – 12 August 1521
Main properties	The vanguard of the Crimean army of around 30,000 court and nomadic cavalry and a few hundred Lithuanian Cossacks attacked the Muscovite corps of around 20,000 semi-standing territorial cavalry at the river Oka fords.
Course, outcome	The Crimeans and Cossacks forded the river Oka near the town of Kolomna and advanced to enlarge their bridgehead on the Muscovite-held bank of the river. They were counter-attacked by the Muscovite troops which tried to push the Crimeans and Cossacks back over the Oka and seal the fords before the main body of the enemy could cross it. The Muscovite units entered the combat through parts that were destroyed by the superior enemy one after another. After suffering heavy losses, the Muscovite corps had to withdraw partly to defend Moscow and partly to screen the territories behind. The arrival of around 10,000 cavalry of the Crimean ally, the Kazan Khanate, prevented the Muscovite forces from launching the counter-offensive and allowed the invaders to plunder Moscow's vicinity. After the relief Muscovite army gathered and moved at Moscow the Crimean and Kazan forces departed back to the steppes with a huge booty.
13. Event	The Polish-Lithuanian siege of the Muscovite fortress of Starodub.
Date	30 July – 29 August 1535
Main properties	The Lithuanian army of 15, 000 to 20, 000 men, including the Polish mercenary corps of 7, 000 men and the balance of the Lithuanian 2,000 professional court cavalry, gentry levy and magnate troops, sieged the major Muscovite fortress of Starodub with a garrison of around 15,000 men of mostly semi-regular territorial cavalry and local militia. The artillery on both sides was plentiful but unknown in detail.

Course, outcome	A couple of weeks of intensive bombardment delivered only minor damage to the fortress. However, the Polish commander Jan Amor Tarnowski prepared a gunpowder mine under the rampart. On 29 August 1535, the mine blew up a section of the rampart and the fortress was stormed through the opened breach. The Muscovite garrison repelled the assaults twice, however during the sortie it was ambushed at the besiegers' wagon-camp and destroyed. The Polish troops then broke into the fortress and massacred the remaining defenders and dwellers.
14. Event	Battle of the Rostislavl fords over the river Oka between the Muscovite and Crimean armies.
Date	30 – 31 July 1541
Main properties	The Crimean army of 40,000 men, including around 1,000 handgunners composed of the Ottoman janissaries and Crimean infantry, modelled after them, with 200 fighting wagons and 60 small guns; 5,000 volunteers from the Astrakhan Khanate, Ottoman Kaffa and Nogay Horde; and the rest of the khan's court guard and the clan nomadic militia; all assaulted the river Oka's crossings defended by the Muscovite army of 25,000 men, including a few thousands urban militia handgunners and some 20,000 semi-standing territorial cavalry with dozens of guns.
Course, outcome	When the mass of the Crimeans poured onto the bank at Rostislavl, only a small Muscovite cavalry division opposed them. However, it had managed to repel the first Crimean charge and the khan had to bring in his handgunners and artillery to clear the crossing. They compelled the Muscovite cavalry to retreat. However, when the Crimean cavalry started to cross the river and increase their foothold the fresh Muscovite cavalry arrived. It pushed the Crimeans back, and then the main Muscovite forces entered the fighting with their field artillery and handgunners. Both sides deployed the wagon-camps opposing each other across the Oka. The Muscovite infantry and artillery outshot the Crimeans. During the night of July 30, the Muscovite heavy gun park arrived and was immediately deployed on the bank. Khan Sahib Geray did not wait until it opened fire and ordered a withdrawal in the early morning.
15. Event	The Muscovite taking of Kazan and destruction of the Khanate of Kazan.
Date	23 August – 4 October 1552
Main properties	The Muscovite army of (probably) 80,000 men consisting of overland and amphibious components with 150 big and medium guns of different classes advanced on the city of Kazan that was defended by the forces of around 60,000 men divided between a 40,000-strong garrison and 20,000-strong relief troops.

Course, outcome	By August 22, the Muscovite army column gathered at the mouth of the river Kazanka around 2 km from Kazan to where the artillery and infantry were transported by vessels. On August 23, the column moved ahead and destroyed the counter-charging Kazan troops at the fortress walls. The fortress was encircled by the siege works and the artillery was brought in on August 27. On August 30, the Muscovite observation troops destroyed the relief Kazan corps. On September 30, some of the fortress outer defences were blown up and the Muscovites managed to capture one of the towers and an adjacent range of the walls, but the defenders erected the fall-back fortification. During the sunrise of October 2, two big mines blew up large sections of the walls. Then the storming began and the Muscovite columns soon overran the south-eastern walls and entered the city. The street hand-to-hand fighting was won by the Russian spearmen who advanced along the streets covered by the harquebusiers on the housing roofs.
16. Event	The Muscovite taking of Astrakhan and destruction of the Astrakhan Khanate.
Date	2 July 1554, March – April 1556
Main properties	The Muscovite amphibious force of 3,000 men consisted mostly of hand-gunners of the standing corps, domestic and Don Cossacks and some dismounted territorial cavalry repeatedly attacked the town of Astrakhan and the khan's camps on the islands of the Volga's estuary in the Caspian Sea. The Astrakhan troops consisted of a few hundred of the khan's guard and thousands of the nomadic militia.
Course, outcome	On 2 July 1554, the Muscovite amphibious forces simultaneously landed at Astrakhan and the khan's camp. The defenders of the town ran away possibly after a short bombardment. The khan's troops vacated the camp before the assault by land and water, they were chased and partly caught and destroyed. A puppet khan was installed in Astrakhan and the Muscovite garrison stationed. In 1555, the puppet khan revolted and together with his Crimean allies managed to oust the Muscovite garrison and establish control over the khanate. In April 1556, the second Muscovite amphibious force reached Astrakhan to find that the local troops and Crimeans had vacated the town. The force proceeded into the Volga's estuary and landed against the khan's array on the Caspian seashore. In a two-day battle, the Muscovite landing troops supported by the ships' artillery destroyed the Astrakhan troops but were pushed back by the arriving Crimean reinforcements of 700 cavalry and 300 handgunners with some field guns. The Muscovites managed to retreat to their ships without big casualties. The Crimeans evacuated to the Crimea and the Muscovites kept Astrakhan.
17. Event	The Muscovite invasion of Livonia.
Date	January 1558 – September 1560

Main properties	The Muscovite armies of different numbers and composition consisting of the semi-standing territorial companies, Tatar mercenaries, standing handgunner corps and artillery waged winter and summer campaigns with the general objective of overrunning the territory of the Livonian confederation, protectorate of the Livonian Order, in the Eastern Baltic. They were opposed by the troops of the member-polities of the Livonian confederation and Livonian Order composed of German mercenaries, the Order's units of knight-brothers and landowning knights, as well as urban and peasant militia.
Course, outcome	<p>At the beginning of 1559, the Muscovite force of 500 handgunners of the standing corps, 1,000 men of the semi-standing territorial cavalry, and 1,000 to 2,000 men of the Ivangorod garrison attacked the formidable Livonian border fortress of Narva defended by the garrison and town militia of unknown number and the relief Livonian corps of 500 cavalymen and 800 German mercenary infantrymen with the wagon-camp. The Muscovite troops ferried themselves over the river Narova, stormed and took Narva's downtown. Then they brought some guns and compelled the castle to surrender.</p> <p>In July 1558, the Muscovite army of 8,000 to 9,000 men of the semi-standing territorial cavalry and 500 to 600 handgunners of the standing corps invaded the bishopric capital of the southern Livonia, fortress of Dorpat (Tartu). The fortress was defended by 2,000 German mercenary infantrymen and city militia. They gave up after the fortress was tightly encircled by the Muscovite siege works and bombarded by incendiary bombs.</p> <p>On 2 August 1560, the Muscovite vanguard corps of some 1,000 men mostly of the semi-standing territorial cavalry attacked the Livonian field corps of 300 knight-brothers and 400 mercenaries near Ermes castle. The Livonians were destroyed outright and the grand marshal of the order was captured. The Muscovite army sieged Fellin, the residence of the Order's grand master. After three days of bombardment the landsknecht garrison gave up and the grand master fell prisoner.</p>
18. Event	The battle of Molodi between the Muscovite and Crimean armies.
Date	28 July – 3 August 1572
Main properties	The Muscovite army of 28,000 men composed of 20,000 semi-standing cavalry, 2,000 infantrymen of the standing handgunner corps, 3,800 Cossack handgunners, 1,900 men of the urban militia, and 300 of Livonian mercenaries, with 100 small and medium guns, caught up with the Crimean army and its Nogay allies rushing to Moscow. The Crimean army was composed of 40,000 men, including around 1,000 handgunners and between 10,000 to 20,000 Nogay mounted bowmen.



Course, outcome	On July 28, the Muscovite cavalry vanguard managed to engage the Crimean rearguard. The superior Crimean cavalry attacked and swept away the Muscovite vanguard but was surprised and decimated by the fire of the Muscovite handgunners and field artillery who managed to arrive on the battlefield and deploy their wagon-camp on a slow hill near the river Rozhay. The Crimeans had to turn against the Muscovite army their main forces. The maneuver cost the Crimeans a day while the Muscovite forces continued to arrive. On July 29, the Crimeans stormed the Muscovite position, however it remained impregnable. On August 2, the Crimeans launched the general storming of the Muscovite position but were unable to overcome the Muscovite field fortifications. In the climax of the battle, the Muscovite bombarded the Crimean center and counter-attacked it using the Livonian mercenaries while the Muscovite reserve cavalry enveloped it. The Crimean assault column was destroyed and fell back to their main camp. The Muscovites did not dare pursue the enemy but the khan ordered the retreat the next night.
19. Event	The siege and taking of Polotsk in 1579 by the army of the Polish-Lithuanian Commonwealth.
Date	10 – 31 August 1579
Main properties	The army of the Polish-Lithuanian Commonwealth of 42,000 men including 30,000 cavalry and 12,000 infantry, with 33 to 67 big and medium guns sieged and took the Muscovite city of Polotsk defended by garrison of 3,000 men of the semi-standing territorial cavalry, 1,500 handgunmen of the standing infantry corps and Cossacks, and 3,000 urban and peasant militia with 38 guns and 900 fortress handguns. The Polish attack on fort Sokol in Polotsk's vicinity followed the surrender of Polotsk. It was carried out by the Polish corps of 5,000 men consisting of 3,200 Hungarian and German infantry, 1,000 Polish cavalry and the balance of the Lithuanian magnates' private forces. The garrison of Sokol consisted of 5,000 men of the semi-standing cavalry, standing handgunner corps and Cossacks.

Course, outcome	On August 12, the Hungarians compelled the Muscovites to burn and vacate Polotsk's downtown area. The fire of the wall-crushing guns against the citadels' ramparts was not effective. On August 29, the infantry attack was launched on the outer Muscovite redout that was put on fire and the Muscovites vacated it. The attempt to storm the citadel failed with big losses. However, the Polish cavalry managed to push back the relief corps of 5,000 men from Polotsk's vicinity that was stationed in the nearby fort Sokol. Feeling their total isolation from the relief forces the garrison gave up on August 30, under honorary conditions. On September 19, the Polish corps attacked the Muscovite relief corps based in the fort Sokol. The German and Hungarian infantry approached the fort digging trenches and the Polish artillery covered them with barrage. The Muscovite commanders decided to break away, however the Muscovite cavalry was destroyed by the Polish cavalry and the Muscovite infantry was pushed back into the fort by the German infantry. Five-hundred Germans managed to enter the fort following the Muscovites but the latter closed the gates behind them. Carnage followed with the next parties of German, Hungarian and Polish infantry scaling the walls and breaking inside through the gates. The Muscovite garrison was virtually wiped out.
20. Event	Battle of Byczyna between the pretenders to the throne of the Polish-Lithuanian Commonwealth.
Date	24 January 1588
Main properties	The Polish regular standing army of 6,600 men consisting of 4,300 cavalry, including 3,500 men of the Polish native commissioned cavalry, 200 mercenary <i>reiters</i> , 100 mercenary Hungarians and 500 mercenary Tatars, and 2,300 different infantry, confronted the Hapsburg dynastic army of 6,500 men, consisting of 3,200 cavalry, including 1,800 <i>reiters</i> , 600 mounted <i>arquebusiers</i> , and 800 Polish cavalry, and 3,300 different infantry.

Course, outcome	In January 1588, Austrian Archduke Maximilian II attempted to take the Commonwealth's Crown by force from Swedish prince Sigismund Vasa. Crown <i>Hetman</i> Jan Zamoyski marched to confront him to the Silesian town of Byczyna. Maximilian chose a position on the hills outside the town. After the success of Maximilian's infantry and <i>reiters</i> against the light Polish cavalry and Tatars, Zamoyski counter-attacked the pretender with his hussar lancers. The hussars forced Maximilian's infantry to retreat, however they were stopped by the <i>reiters'</i> caracole. Then 1,000 of Zamoyski's hussar reserve charged on Maximilian's right wing composed of his Polish supporters. Although after their flight a further advance of Zamoyski's hussars was checked by the fire of Maximilian's <i>arquebusiers</i> , all Maximilian's army started to retreat. Soon it lost its morale and cohesion. The disorganized Maximilian's infantry was destroyed, though his cavalry mostly escaped.
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## Ottoman Warfare, 1450-1700: Reflections on Recent Research

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Emerging in western Asia Minor in the late thirteenth century and collapsing six centuries later during World War I, the Ottoman Empire was among the militarily most formidable empires in world history. Despite war's central role in shaping the history of the empire and its adversaries, the study of Ottoman warfare is a new field in Ottoman historiography. The first general works on Ottoman warfare appeared only in the late 1990s.<sup>1</sup> Ottoman specialists working in Europe and the United States were the first to engage with the new military history and the military revolution debate. Still, Turkish colleagues soon joined them, producing an impressive body of work on various aspects of Ottoman military history.<sup>2</sup> In the past two decades, numerous edited volumes on European warfare have commissioned chapters on the Ottomans, and a few gen-

1 Rhoads Murphey, *Ottoman Warfare, 1500-1700*. New Brunswick and New Jersey: Rutgers University Press, 1999; Virginia Aksan, "Ottoman War and Warfare 1453-1812." In Jeremy Black ed., *War in the Early Modern World 1453-1815*, London: University College London, 1999, 147-75; Gábor Ágoston, "Ottoman Warfare, 1453-1815." In Jeremy Black ed., *European Warfare*. London: Macmillan, 1999, 118-44. These works appeared due largely to the efforts of Jeremy Black, who invited Ottomanist historians to contribute to his many edited volumes, which aimed at correcting earlier Eurocentric views and presenting a more balanced, global military history. For earlier overviews of Ottoman warfare studies, see Kahrman Şakul, "Osmanlı Askeri Tarihi Üzerine Bir Literatür Değerlendirmesi." *Türkiye Araştırmaları Literatür Dergisi* 1/2 (2003), 529-571; idem, "Batı'da ve Türkiye'de Yeni Askeri Tarihçilik." *Toplumsal Tarih* 198 (2010), 31-35; Virginia Aksan, "Ottoman Military Matters." *Journal of Early Modern History* 1 (2002), 52-62.

2 The military revolution debate and western warfare studies were introduced into Ottomanist historiography and Turkish-language scholarship by Caroline Finkel, Rhodes Murphey, Virginia Aksan, and Gábor Ágoston, whose works also appeared in Turkish translation as did Geoffrey Parker, *The Military Revolution: Military Innovation and the Rise of the West, 1500-1800*. Cambridge: Cambridge University Press, 1988 and several of Jeremy Black's books. See Şakul, "Batı'da ve Türkiye'de," 32.

eral monographs on Ottoman warfare have also been published.<sup>3</sup> Due to specialization in the field, the Ottoman fleet and naval warfare are treated separately.<sup>4</sup> Although there is still no accepted Turkish term for “warfare,” Ottoman warfare studies have come a long way in the past two decades.<sup>5</sup> The following short review looks at some new research regarding two themes: 1) the Ottomans’ experience with gunpowder and firearms, and 2) the changing nature of warfare and Ottoman military transformation.

### *Gunpowder and Firearms*

The Ottomans’ successful participation in the “artillery” revolution is generally accepted. Some scholars even suggested that the Ottomans –along with the Safavids of Persia and the Mughals of India– were a “gunpowder empire.”<sup>6</sup>

3 See, for instance, Virginia Aksan, *Ottoman Wars 1700–1870: An Empire Besieged*. New York: Longman/Pearson, 2007, and its revised edition: *The Ottomans, 1700–1923: An Empire Besieged*. Second edition. London: Routledge, Taylor & Francis Group, 2022; Mesut Uyar and Edward J. Erickson, *A Military History of the Ottomans: From Osman to Atatürk*. Praeger Security International/ABC-CLIO, 2009; Gábor Ágoston, *The Last Muslim Conquest: The Ottoman Empire and Its Wars in Europe*. Princeton, NJ.: Princeton University Press, 2021. Black’s volumes on great battles, military leaders, and elite forces, all have chapters about the Ottomans.

4 See, for example, İdris Bostan, *Osmanlı Bahriye Teşkilâtı: XVII. Yüzyılda Tersâne-i Âmire*. Ankara: Türk Tarih Kurumu, 1992; idem, *Kürekli ve Yelkenli Osmanlı Gemileri*. İstanbul: Bilge, 2005; idem, *Beylikten İmparatorluğa Osmanlı Denizciliği*. İstanbul: Kitap Yayınevi, 2006; idem, *Osmanlılar ve Deniz: Deniz Organizasyonu, Teşkilat, Gemiler*. İstanbul: Küre Yayınları, 2007; idem, *Adriyatik’te Korsanlık: Osmanlılar, Uskoklar, Venedikliler, 1575-1620*. İstanbul: Timaş, 2009; Tuncay Zorlu, *Innovation and Empire: Sultan Selim III and the Modernisation of the Ottoman Navy*. London: Tauris Academic Studies, 2008; Daniel Panzac, *La marine ottomane: de l’apogée à la chute de l’Empire, 1572-1923*. Paris: CNRS, 2009; Yusuf Alperen Aydın, *Sultanın Kalyonları. Osmanlı Donanmasının Yelkenli Savaş Gemileri (1701-1770)*. İstanbul: Küre Yayınları, 2011; Christine Isom-Verhaaren, *The Sultan’s Fleet: Seafarers of the Ottoman Empire*. London: I.B. Tauris, 2022.

5 Şakul suggested “harbiye” for “warfare. See, Şakul, “Osmanlı Askeri Tarihi,” 529.

6 Marshall G.S. Hodgson, *The Venture of Islam. Vol. 3, The Gunpowder Empires and Modern Times*. Chicago: University of Chicago Press, 1974; William Hardy McNeill, *The Age of Gunpowder Empires, 1450-1800*. Washington, DC: American Historical Association, 1989. Douglas E. Streusand, *Islamic Gunpowder Empires: Ottomans, Safavids, and Mughals*. Boulder, CO: Westview Press, 2011. The term “gunpowder empire” was coined by Marshall Hodgson. William H. McNeill, Hodgson’s colleague at the University of Chicago, recalled in his memoirs that he first heard the term when talking to Hodgson and that he “promptly adopted it.” See William H. McNeill, *The Pursuit of Truth: A Historian’s Memoir*. Lexington, KY: The University Press of Kentucky, 2005, 71-72.

Such an approach placed undue emphasis on weapons and military technology overstating the role that firearms played in the emergence and evolution of the Ottoman polity. At the same time, others discussed the Ottomans' experience with firearms to illustrate western military superiority and Islamic backwardness, claiming that the Ottomans could not keep pace with European military developments because of their conservatism, which sprung from Islam. The opening of the Turkish archives in the 1990s and the systematic study of hundreds of account books of cannon foundries, gunpowder mills, saltpeter works, as well as fortress, arsenal, and armory inventories greatly enhanced our understanding of the Ottomans' experience with firearms, their manufacturing capabilities, and the types and quality of their weapons. Gone are the days when historians were writing about the Ottomans' "technological inferiority," "difficulty in mass-producing" weapons, "third-tier producer" status, and dependence on European imports, all, supposedly, because of the "conservatism of Islam," and Ottoman "military despotism," to name but a few of the old fallacies.<sup>7</sup>

The Ottomans employed firearms shortly after the weapon's appearance in Europe. Preceding their Muslim and Christian rivals by centuries, they integrated firearms into the standing army by setting up specialized corps of artillerymen, armorers, gun carriage drivers, and bombardiers in the fifteenth century. The elite infantry janissaries, established in the late fourteenth century, were gradually armed with arquebuses from the first half of the fifteenth century onwards. By the mid-sixteenth century, most janissaries carried firearms. While in fifteenth-century sieges, the Ottomans continued to use their stone-throwing siege engines, cannons gained tactical significance in the 1440s. Wars fought against the Hungarians in the 1440s forced the sultan's soldiers to emulate their opponents' weaponry and tactics, including the "*Wagenburg*" or "wagon fortress."<sup>8</sup>

7 Authors who shared such views include Carlo Maria Cipolla, Kenneth M. Setton, Paul Kennedy, Eric L. Jones, Arthur Goldschmidt, Bernard Lewis, Anthony Pagden, and Victor Davis Hanson. For their critique, see Gábor Ágoston, "Disjointed Historiography and Islamic Military Technology: The European Military Revolution Debate and the Ottomans." In Mustafa Kaçar and Zeynep Durukal, eds., *Essays in Honour of Ekmeleddin İhsanoğlu*. 2 vols. İstanbul: IRCICA, 2006, vol. 1, 571-82. In light of new research, Parker, who echoed some of these views in the 1988 edition of *The Military Revolution*, revised these sections in the 1999 edition.

8 İsmail Hakkı Uzunçarşılı, *Osmanlı Devleti Teşkilâtından Kapukulu Ocakları*. 2 vols. 2<sup>nd</sup> edition Ankara: Türk Tarih Kurumu, 1984 (first edition, 1944); Halil İnalcık, "Osmanlılar ve Ateşli Silahlar." *Belleten* 21/83 (1957), 508-509; Djurdjica Petrović, "Firearms in the Balkans on the Eve of and After the Ottoman Conquests of the Fourteenth and Fifteenth Centuries." In Vernon J. Parry and M. E. Yapp eds., *War, Technology and Society in the Middle East*. Lon-



The giantism theory, that is, the assertion that –unlike their European adversaries who used lighter field pieces– the Ottoman artillery was dominated by clumsy bombards, and thus lagged behind European technological developments, has also been proven a fallacy. The record books of the Ottoman cannon foundries demonstrate that the Ottomans cast all three classes of guns: parabolic-trajectory mortars hurling huge stone balls and bombs, flat-trajectory, large-caliber siege and fortress cannons, and medium- and small-caliber field guns. The overwhelming majority of the Ottoman ordnance consisted of the latter.<sup>9</sup>

The center of Ottoman cannon casting was the Imperial Cannon Foundry in Constantinople, which produced hundreds of guns annually (two to three pieces per day in the 1680s and 1690s), the total weight of which was around 300-600 metric tons. Ottoman founders cast bronze cannons whose alloy (8.6-11.3 percent tin and 89.5-91.4 percent copper) were similar to those made in Europe, which contradicts to historians' claim about their supposed "metallurgical inferiority." However, the issue is difficult to settle as sloppy foundry techniques in the metal could have caused porosity, affecting the cannons' quality.<sup>10</sup>

The janissaries used the matchlock musket through the seventeenth century. However, from the late sixteenth century, they gradually adapted flintlock muskets. Since early flintlocks were not as reliable as the matchlock, the Ottomans also used the combination of flint and match firing mechanisms. Ottoman gunsmiths manufactured reliable musket barrels made of flat steel sheets coiled into a spiral, less likely to burst than European barrels with longitudinal seams. The janissaries used two types of muskets: heavy trench and fortress guns in sieges and defense with bore diameters of 20-29 millimeters and lighter muskets weighing 3-4.5 kilograms that had bore diameters of 11-16 millimeters. New research has shown that the janissaries were firing their muskets row by row

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don: Oxford University Press, 1975, 169-172, 175; Gábor Ágoston, "Ottoman Artillery and European Military Technology in the Fifteenth to Seventeenth Centuries." *Acta Orientalia Scientiarum Hungaricae* 47 (1994), 15-48; idem, "Behind the Turkish War Machine: Gunpowder Technology and War Industry in the Ottoman Empire, 1450-1700." In Brett Steele and Tamera Dorland eds., *The Heirs of Archimedes: Science and the Art of War through the Age of Enlightenment*. Cambridge, MA: MIT Press, 2005, 101-33.

9 Gábor Ágoston, *Guns for the Sultan: Military Power and the Weapons Industry in the Ottoman Empire*. Cambridge: Cambridge University Press, 2005, 61-88; Idem, "Firearms and Military Adaptation: The Ottomans and the European Military Revolution, 1450-1800." *Journal of World History* 25 (2014), 100-105; Salim Aydüz, *XV. ve XVI. Yüzyılda Tophane-i Amire ve Top Döküm Teknolojisi*. Ankara: Türk Tarih Kurumu, 2006.

10 Ágoston, *Guns for the Sultan*, 178-89.

from the early sixteenth century (certainly already in 1526) and used volley fire in action in 1605, a finding that has called for the reassessment of the invention and diffusion of the musket volley fire, one of the markers of the European military revolution thesis.<sup>11</sup>

In addition to the gunpowder factories in Constantinople, the Ottomans manufactured gunpowder in numerous powder mills in Hungary, Iraq, and Egypt, which used local resources and materials. The production capacity of the Ottoman cannon foundries and powder mills (600–970 metric tons annually in the sixteenth century and 760–1,000 metric tons in the next) made the Ottomans self-sufficient in cannon casting and powder manufacturing well into the eighteenth century.<sup>12</sup> While the center of Ottoman cannon casting and powder manufacturing was the Imperial Cannon Foundry and the powder factories in the capital, the Ottomans also cast cannons in eighteen provincial foundries in Hungary, the Balkans, Asia Minor, Iraq, and Egypt. These provincial foundries and powder factories met local needs, strengthened local defense capabilities, and reduced the logistical difficulties and costs associated with transporting heavy weapons and ammunition. Fortress inventories suggest that the Ottomans managed to deploy and stockpile sufficient artillery and powder in their frontier castles to withstand long sieges, even at the end of the seventeenth century.

### *The Changing Nature of War*

The era between 1450 and 1700 can be divided into two periods. The first was characterized by seasonal campaigns, decisive battles, and territorial expansion (1450–1550). The second was the era of sieges and exhausting wars (1550–1700). Like their European adversaries, the Ottomans spent most of their time waging wars. The high percentage of time spent at war in 1450–1500 (37 years or 74%) is explained by Mehmed II's conquests in southeastern Europe

11 Ágoston, *Guns for the Sultan*, 24; idem, "Firearms and Military Adaptation," 95–98; Günhan Börekçi, "A Contribution to the Military Revolution Debate: The Janissaries Use of Volley Fire during the Long Ottoman-Habsburg War of 1593-1606 and the Problem of Origins." *Acta Orientalia Scientiarum Hungaricae* 59 (2006), 407–38. See, also Özgür Kolçak's important upcoming book.

12 Ágoston, *Guns for the Sultan*; idem, 128–63; idem, "Gunpowder for the Sultan's Army: New Sources on the Supply of Gunpowder to the Ottoman Army in the Hungarian Campaigns of the Sixteenth and Seventeenth Centuries." *Turcica* 25 (1993), 75–96; idem, "*Merces Prohibita*: The Anglo-Ottoman Trade in War Materials and the Dependence Theory." *Oriente Moderno* 20/1 (2001), 177–192; Zafer Gölen, *Osmanlı Devleti'nde Baruthâne-i Âmire*. (XVIII. Yüzyıl). Ankara: Türk Tarih Kurumu, 2006.

and Asia Minor and the long Venetian-Ottoman war of 1463–79. This war overlapped with other campaigns, forcing the Ottoman armies and fleets to fight on multiple fronts simultaneously, which often involved amphibious operations. Although the Ottomans fought only 21 years (42%) in 1500–50, this period witnessed four decisive battles and the empire's largest territorial expansion, the conquests of eastern Asia Minor, Syria, Egypt, Hungary, and Iraq. During the first period (1550–1600) of the era of exhausting wars (1550–1700), the Ottomans were at war for 34 years (68%), including the war against Safavid Iran (1578–90) and the Long War against the Habsburgs in Hungary (1593–1606). They waged war for 86 years (86%) in the next one hundred years, 43 years between 1600–50 and 1650–1700. This was an era of the longest and most exhausting wars, which included the Ottomans' Sixty Years' War (1578–1639) against the Safavids (1578–90, 1603–12, 1615–18, 1623–39) and Habsburgs (1593–1606), the Cretan War (1645–69), and the Long War of 1683–99 against the Habsburgs and the Holy League. The last period (1650–1700) also saw renewed expansionist policies under the Köprülü grand viziers.

What affected the length of time that the Ottomans spent at war? Was there any grand strategy, or was it the strategy of individual rulers, elite factions, or any other pressure groups? What were the motives and constraints of making wars in the Ottoman context? While there are no monographs on these questions, historians have offered some case studies that could provoke debate and further research.

While the grand strategy approach might be attractive, especially to political scientists and sociologists for its theoretical coherence and elegance, it usually simplifies and distorts historical realities that are more complex. Ottoman history lends itself to strategic interpretations that overrate state intentionality because the historiography has privileged the state's perspectives as it has traditionally been based on sources generated by the state's bureaucracy. However, it is misleading to assume that the Ottomans had a unified strategic culture or grand strategy that guided their conquest throughout the centuries.

Given the lack of case studies on Ottoman decision-making, prosopography, and socio-political networks, it is not clear who was responsible for the strategy of the House of Osman. Despite their significant role in shaping Ottoman history, there are surprisingly few modern biographies of the Ottoman sultans. The situation got better in the past decade, especially regarding the Ottoman rulers

of the age of expansion: Mehmed II<sup>13</sup>, Selim I,<sup>14</sup> and Süleyman I<sup>15</sup>, though some of the best works are available only in Turkish.

The literature about other empires' grand strategy also prompted some scholars to examine the question regarding the Ottomans.<sup>16</sup> The strategies of early Ottoman conquest have attracted significant attention, especially if one includes the rich literature about the emergence of the House of Osman.<sup>17</sup> Some fifteen

- 13 Franz Babinger, *Mehmed the Conqueror and His Time*. Translated by Ralph Manheim. Edited by William C. Hickman. Princeton, NJ: Princeton University Press, 1978, was originally published in 1953 in German, without references. John Freely, *The Grand Turk: Sultan Mehmet II—Conqueror of Constantinople, Master of an Empire, and Lord of Two Seas*. London, I.B. Tauris, 2009, is a popular book, though it uses literature in modern Turkish. Selâhattin Tansel, *Osmanlı Kaynaklarına Göre Fatih Sultan Mehmed'in Siyasi ve Askeri Faaliyeti*. Ankara: Türk Tarih Kurumu, 1953, covers the sultan's policy and military activities using Ottoman and European sources and literature and has been reissued in 1985, 1999, and 2014. The best biography is Feridun M. Emecen, *Fetih ve Kıyamet, 1453: İstanbul'un Fethi ve Kıyamet Senaryoları*. İstanbul: Timaş, 2012.
- 14 The most authoritative study is Feridun M. Emecen, *Zamanın İskenderi Şarkın Fatihi Yavuz Sultan Selim*. İstanbul: Yitik Hazine Yayınları, 2010. Erdem Çıpa, *The Making of Selim: Succession, Legitimacy, and Memory in the Early Modern Ottoman World*. Bloomington: Indiana University Press, 2017, and Alan Mikhail, *God's Shadow: Sultan Selim, His Ottoman Empire, and the Making of the Modern World*. New York: Liveright Publishing, 2020, have both received serious criticism. For the first, see Fikret Yılmaz, "Selim'i Yazmak." *Osmanlı Araştırmaları* 51 (2018), 297–390, and for the second, see, Cornell Fleischer, Cemal Kafadar, and Sanjay Subrahmanyam, "How to Write Fake Global History," in *Cromohs (Cyber Review of Modern Historiography)*, ISSN 1123-7023, DOI: 10.13128/cromohs-12032, RECEIVED: 7 September 2020; PUBLISHED: 10 September 2020 <https://oajournals.fupress.net/index.php/cromohs/debate>
- 15 Feridun M. Emecen, *Kanuni Sultan Süleyman ve Zamanı*. Ankara: Türk Tarih Kurumu, 2022, and Kaya Şahin, *Peerless among Princes: The Life and Times of Sultan Süleyman*. New York: Oxford University Press, 2023 are the most recent books from two leading Ottoman historians. Şahin also has an important book on Süleyman's grand chancellor, who played a significant role in shaping the sultan's policies. See, Kaya Şahin, *Empire and Power in the Reign of Süleyman: Narrating the Sixteenth-Century Ottoman World*. Cambridge: Cambridge University Press, 2013.
- 16 See, for instance, Edward Luttwak, *The Grand Strategy of the Roman Empire: From the First Century A.D. to the Third*. Baltimore: Johns Hopkins University Press, 1970, and other editions; idem, *The Grand Strategy of the Byzantine Empire*. Cambridge MA: Belknap Press, 2009; John P. LeDonne, *The Grand Strategy of the Russian Empire: 1650–1831*. New York: Oxford University Press, 2003; A. Wess Mitchell, *The Grand Strategy of the Habsburg Empire*. Princeton, NJ: Princeton University Press, 2018; Geoffrey Parker, *The Grand Strategy of Philip II*. New Haven: Yale University Press, 1998.
- 17 Halil İnalcık, "Ottoman Methods of Conquest." *Studia Islamica* 2 (1954), 103–29; Ágoston, *The Last Muslim Conquest*, 46–53. Of the literature about the emergence of the House

years ago, I examined Süleyman's grand strategy in the context of the Ottoman-Habsburg rivalry. More recently, I combined warfare and lawfare in examining Ottoman strategies and military capabilities.<sup>18</sup> Others examined the grand strategies of Bayezid II, drew attention to renewed expansionist policies of the Köprülü grand viziers to secure the empire's northern frontiers, or studied the role of patronage networks along the empire's eastern European borders.<sup>19</sup>

Historians like to single out decisive battles, claiming that they changed the course of history. While older books about decisive and great battles exhibited a strong Eurocentric bias, more recent compilations included battles from Ottoman and Islamic history, such as Saladin's victory at the battle of Hattin in 1187 against the crusaders, the Mamluks' victory over the Mongols at Ayn Jalut in 1260, or Babur's victory against Sultan Ibrahim at Panipat in 1526. However, when it came to the Ottomans, the most popular battles chosen for such books had been the Ottoman defeats at Lepanto (1571) and Vienna (1683).<sup>20</sup> These battles were also the subject of monographic studies celebrating western victories.<sup>21</sup> We now have an excellent monograph on the siege of Vienna from an Ottoman perspective.<sup>22</sup> However, Lepanto and the five decisive Ottoman victories of the period of expansion (1450-1550) –the conquest of Constantinople (1453), and the battles of Çaldıran (1514) Marj Dabiq (1516) Raydaniyya (1517) and

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of Osman, see Paul Wittek, *The Rise of the Ottoman Empire*. London: Royal Asiatic Society, 1938, which defined the field until the 1970s. See also, idem, *The Rise of the Ottoman Empire: Studies in the History of Turkey 13<sup>th</sup>–15<sup>th</sup> Centuries*. Edited by Colin Heywood. Milton Park Abingdon: Routledge, 2005; Cemal Kafadar, *Between Two Worlds: The Construction of the Ottoman State*. Berkeley: University of California Press, 1995; Heath W. Lowry, *The Nature of the Early Ottoman State*. Albany, NY: State University of New York Press, 2003.

18 Gábor Ágoston, "Information, Ideology, and Limits of Imperial Policy: Ottoman Grand Strategy in the Context of Ottoman-Habsburg Rivalry." In Virginia H. Aksan and Daniel Goffman eds., *The Early Modern Ottomans: Remapping the Empire*. New York: Cambridge University Press, 2007, 75–103, and idem, *The Last Muslim Conquest*. See also Gábor Ágoston "The Ottomans: From Frontier Principality to Empire." In John Andreas Olsen and Colin S. Gray eds., *The Practice of Strategy: From Alexander the Great to the Present*. Oxford: Oxford University Press, 2011, 105–31, especially, 107–109.

19 Reha Bilge, *II. Bayezid: Deniz Savaşları ve Büyük Strateji*. İstanbul: Giza Yayıncılık, 2012; Metin Kunt, "17. Yüzyılda Osmanlı Kuzey Politikası Üzerine Bir Yorum." *Boğaziçi Üniversitesi Dergisi* 4–5 (1976–77), 111–16; Michal Wasiucionek, *The Ottomans and Eastern Europe: Borders and Political Patronage in the Early Modern World*. London: I.B. Tauris, 2021.

20 A more balanced selection of battles can be found in Jeremy Black ed., *The Seventy Great Battles of All Time*. London: Thames and Hudson, 2005.

21 Niccolò Capponi, *Victory of the West: The Story of the Battle of Lepanto*. London: Macmillan, 2006, which despite its title made an effort to integrate the works of Ottoman historians.

22 Kahraman Şakul, *II. Viyana Kuşatması. Yedi Başlı Ejderin Fendi*. İstanbul: Timaş, 2021.



Mohács (1526)– still await their Ottomanist historian.

While no Ottomanist historian has produced a monograph on the conquest of Byzantine Constantinople, research on Mehmed II and his reign provides much new material on the conquest and the sultan's wars in general.<sup>23</sup> The Ottomans' capability of deploying large cannons in significant numbers is usually cited as a crucial factor in the conquest. Indeed, the besiegers deployed the largest cannons ever mobilized to that date. However, research suggests that while Ottoman artillery gunners, miners, and sappers played significant roles in breaching the Byzantine capital's walls, traditional siege engines remained important. Weapons alone were not sufficient to carry the Ottomans to victory. Careful planning, resourceful leadership, numerical superiority, better logistics (abundant supplies of weaponry and food), prowess in siege warfare, and lack of Byzantine relief forces all proved crucial in the eventual Ottoman victory.<sup>24</sup>

The conquest brought unprecedented geopolitical and political rewards for the Ottomans. It eliminated Byzantium, the heart of anti-Ottoman diplomacy and crusades, which had separated the Ottomans' European and Asian provinces. The conquest provided the Ottomans with an ideally located economic hub and logistical center, with a commanding position over military and trade routes and maritime lines of communications, from where they would launch new campaigns and extend their rule to the Danube and the Euphrates. The conquest also enabled the sultan to strengthen his power vis-a-vis the Turkish aristocracy, who had dominated the grand vizirate and military command, by replacing them with viziers from among the sultan's slaves (*kul*). To counterbalance the influence and military significance of the marcher lords and their semi-independent armies of frontier raiders (*akıncı*), Mehmed expanded the standing salaried slave army (*kapukulu*) and brought the marcher lords under his control by integrating their regions into the newly created military-administrative districts (*sancak*) under his command.<sup>25</sup>

The battle of Çaldıran is often cited as an example for the decisiveness of the janissaries' superior firepower. However, evidence shows that only about half of the 10,000 janissaries (not 12,000-20,000 as earlier studies claimed) were

23 See especially, Emecen, *Fetih ve Kıyamet*.

24 Kelly DeVries, "Gunpowder Weapons at the Siege of Constantinople, 1453." In Yaacov Lev ed., *War and Society in the Eastern Mediterranean, 7<sup>th</sup>-15<sup>th</sup> Centuries*. Leiden: Brill, 1997, 343–62; Gábor Ágoston, "War-Winning Weapons? On the Decisiveness of Ottoman Firearms from the Siege of Constantinople (1453) to the Battle of Mohács (1526)." *Journal of Turkish Studies* 39 (2013), 129–43.

25 Ágoston, *The Last Muslim Conquest*, 88–90.

equipped with arquebuses. Still, janissary firepower and the Ottoman artillery proved fatal for the Safavids, who did not use firearms at the battle. Ottoman numerical superiority (outnumbering the Safavids two to one), and Shah Ismail's tactical mistakes (letting the Ottomans set up their *tabur* and ordering the Safavid cavalry to attack the fortified Ottoman camp) also were significant factors in the sultan's triumph.<sup>26</sup>

The Ottoman victory in 1514 secured Ottoman rule in eastern Asia Minor and Azerbaijan, the homeland of pro-Safavid Qizilbash Turkmen tribes who had long challenged Sunni Ottoman rule. Çaldıran also pushed the Safavid state to position itself as the main counterweight to its two Sunni Muslim neighbors: the Ottomans and Mughals of India. During two centuries of Ottoman-Safavid rivalry, Shiism solidified in Persia and the adjacent territories in Iraq, with consequences to this day.

Unlike the Safavids at Çaldıran, the Mamluks employed dozens of field pieces and troops with arquebus at Marj Dabiq, but they could not match Ottoman firepower. Moreover, the Mamluk cavalry could not penetrate the Ottoman *tabur*, described by a Damascene chronicler as a fortified wall. Among other factors of the Mamluk defeat, historians listed Ottoman numerical superiority, Sultan al-Ghawri's death (possibly of a stroke) halfway through the battle, the disorder due to the looting of some Mamluk soldiers, and the desertion of Kha'ir Bey, the last Mamluk governor of Aleppo, who changed sides with his troops during the battle. At Raydaniyya, Sultan Tumanbay used entrenched positions, matchlockmen, and *tabur*. However, Selim learned about Tumanbay's plans and outflanked the Mamluk gun emplacement. In addition to firepower, Ottoman intelligence and tactical flexibility won the day for the Ottomans.<sup>27</sup>

Marj Dabiq and Raydaniyya marked the beginning of Ottoman rule in the Arab heartlands of Islam and significantly shaped the region and the Ottoman Empire. The conquest of Egypt also acquainted the Ottomans with the Red Sea and the Indian Ocean. It offered the Ottoman leadership an opportunity to dislodge the Portuguese from the Indian Ocean and control the spice trade, which they decided not to pursue. Since Ottoman strategic priorities focused on the Mediterranean and central Europe, the Porte was contented with securing the Red Sea and the Holy Cities of Mecca and Medina against the Portuguese. Ot-

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26 Emecen, *Zamanın İskenderi*; Ağoston, "War-Winning Weapons?"

27 Robert Irwin, "Gunpowder and Firearms in the Mamluk Sultanate Reconsidered." In Michael Winter and Amalia Levanoni eds., *The Mamluks in Egyptian and Syrian Politics and Society*. Leiden: Brill, 2004, 136.

toman policy in the Indian Ocean remained limited in scope and objectives due to the lack of naval bases and the modest size and restricted radius of action of the Ottoman oar-powered galley fleets.<sup>28</sup>

Ottoman victories at Çaldıran, Marj Dabiq, and Raydaniyya extended Ottoman rule into eastern Anatolia, Syria, and Egypt. Expanding the empire's territories from about 880,000 square kilometers (evenly divided in Europe and Asia) to about 1,490,000 square kilometers, of which 71 percent lay in Asia and Africa, substantially enhanced the Porte's revenues. The publication of Ottoman treasury record books advanced our understanding of the fiscal-economic significance of these conquests. The imperial treasury's cash revenues increased from about 1.3 million gold ducats in 1509 to 4.9 million ducats in 1527-28, of which 42 percent came from Egypt. With revenues from military fiefs, called *timar* (3.5 million ducats), religious endowments (another one million ducats), and the sultan's privy purse (two million ducats), the empire's total revenues reached 11.4 million ducats.<sup>29</sup>

These revenues formed the financial basis of Süleyman's conquests. The sultan used these revenues to maintain one of the largest armies of his time, numbering some 125,00-130,00 men, which reached 160,000-170,000 men with the auxiliary raiders (*akıncı*) and the infantry peasant militia (*azab*). His army consisted of 70,000-80,000 provincial cavalrymen remunerated with military

28 Ágoston, *The Last Muslim Conquest*, 129-38, 229-35. This interpretation is based on the works of Cengiz Orhonlu, Salih Özbaran, Hulusi Yavuz, Muhammad Yakub Mughul, Palmira Brummett, and Svat Soucek. See, Cengiz Orhonlu, *Osmanlı İmparatorluğu'nun Güney Siyaseti: Habeş Eyaleti*. Ankara: Türk Tarih Kurumu, 1974; Muhammad Yakub Mughul, *Kanuni Devri Osmanlıların Hint Okyanusu Politikası ve Osmanlı Hint Müslümanları Münasebetleri, 1517-1538*. İstanbul: Fetih Yayınevi, 1974; Salih Özbaran, *Ottoman Expansion Toward the Indian Ocean in the Sixteenth Century*. İstanbul: Isis, 2009, idem, *Umman'da Kapaşan İmparatorluklar: Osmanlı ve Portekiz*. İstanbul: Tarihçi Kitabevi, 2013; Hulusi Yavuz, *Kabe ve Haremeyn için Yemen'de Osmanlı Hakimiyeti (1517-1571)*. İstanbul: Serbest Matbaası, 1984; Palmira Johnson Brummett, *Ottoman Seapower and Levantine Diplomacy in the Age of Discovery*. Albany, NY: State University of New York Press, 1994; Svat Soucek, "Five Famous Ottoman Turks of the Sixteenth Century." *Osmanlı Araştırmaları* 40 (2012), 325-41. For an alternative view, see Giancarlo Casale. *The Ottoman Age of Exploration*. Oxford: Oxford University Press, 2010, for which see, Soucek, "About the Ottoman Age of Exploration." *Archivum Ottomanicum* 27 (2010), 313-42.

29 Ágoston: *The Last Muslim Conquest*, 132, 147, 273; Baki Çakır, "Geleneksel Dönem (Tanzimat Öncesi) Osmanlı Bütçe Gelirleri." In Mehmet Genç and Erol Özvar eds., *Osmanlı Maliyesi. Kurumlar ve Bütçeler*. 2 vols. İstanbul: Osmanlı Bankası Arşiv ve Araştırma Merkezi, 2006, vol. 1., 167-95 and Erol Özvar, "Osmanlı Devletinin Bütçe Harcamaları (1509-1788)", *ibid*, 197-238.

fiefs, a much smaller standing army, numbering about 15,000 men (janissary infantry, palace cavalry, and artillery), 42,000 garrison soldiers who served in the empire's 292 fortresses and forts, and 35,000-40,000 frontier *akıncı* raiders and *azab* militiamen. He routinely mobilized 60,000 professional troops for his campaigns, most of whom were provincial cavalymen that provided the bulk of the expeditionary armies; the standing troops represented about 20-25 percent.<sup>30</sup>

The sultan personally led his armies in thirteen campaigns and extended his rule into Hungary and Iraq. In 1526 at the battle of Mohács, Süleyman routed the Hungarian Kingdom's army, and in 1541 conquered its capital, Buda, incorporating central Hungary into his empire. Since Ferdinand I of Habsburg, younger brother of Holy Roman Emperor Charles V, ruled over the northern and western parts of the kingdom, Mohács also inaugurated the era of Ottoman-Habsburg rivalry and wars in central Europe. The other major theater of Ottoman-Habsburg military conflicts was the Mediterranean and North Africa, where the two empires' navies battled each other, assisted by their allies (the Barbary corsairs and various Holy Leagues, respectively). Süleyman also continued his father's wars against the Shia Safavids of Persia, conquering Iraq in 1534-35, 1548, and 1553-54 and establishing the provinces of Mosul, Baghdad, Basra, and Shahrizor.

During 1550-1700, the Ottoman military and fiscal system underwent numerous crises and adjustments. The Ottomans' "Sixty Years' War" (1578-1639) against the Safavids and Habsburgs, the Cretan War (1645-69), and the Long War of 1683-99 against the Holy League resulted in an unprecedented demand for military manpower, weapons, and munitions. The demands led to sharp increases in the salaried army, from about 21,700 men in 1574 to 66,500 men in 1609 and 100,000 men in 1687. The Porte started the war against the Safavids with about 15,000 janissaries in 1578, ending with 22,760 men in 1590. The trend continued during the Long War (1593-1606) against the Habsburgs. The Porte started the war with 24,250 janissaries in 1593 (of whom 9,000 men were ordered to the Hungarian front) and ended with over 42,600 men. The number was about the same during the last phase of the Ottoman-Safavid wars (1623-1639) but rose to 51,000-56,000 during the Cretan war and to 70,000-79,000 in the late 1690s.

The Porte could not meet the increasing demand for military manpower, which led to the abandonment of the child levy, the infamous *devşirme* system, and the metamorphosis of the janissaries. Although the civilianization of the

30 Ágoston, *The Last Muslim Conquest*, 275-82.

janissaries started under Süleyman, the process accelerated in the 1550-1700 period. By the end of the period, janissary service had been radically changed. Janissaries had become craftsmen, shop owners, and tax farmers, while tax-paying subjects bought their way into the corps. Janissary discipline and skills had primarily gone. Of the janissaries on the treasury's payroll, only about one-third could be mobilized for campaigns. A third served in the empire's border fortresses in Hungary and Iraq, while the remaining janissaries were not fit for military service, being designated as pensioners.

The transformation also affected the provincial timariot cavalry, the bulk of the Ottoman army under Süleyman. Since their military value declined and the small fief holders could not outfit themselves and showed little desire to report for military service, the Porte gradually replaced them with the private household armies of provincial governors and local notables. With the help of this military devolution and fiscal decentralization, the Porte could still field ever larger armies. While Süleyman mobilized 60,000 men, the Porte fielded 80,000-90,000 men in the 1690s against the Holy League. While the infantry-to-cavalry ratio of these armies (52:48 and 57:43) was similar to that of the Habsburgs, the Ottomans could not match the quality of the Habsburg armies. The Ottomans were also ill-prepared for field battles, which dominated the Long War. They lost most of the battles of the war of 1683-1699 and gradually surrendered their fortresses to the Habsburgs in Hungary, accepting defeat and the loss of Hungary in 1699 and, following yet another defeat at the 1716-17 war, 1718.<sup>31</sup>

However, the Ottomans remained strong in siege warfare. They scored spectacular victories during the Köprülü grand viziers' northward expansion by conquering Érsekújvár (1663), Candia (1669), Kamianets-Podilsky (1672) and Chyhyryn (1677-78). They also recovered the Morea from the Venetians in the 1715-17 war, demonstrating their traditional skills in siege warfare. Indeed, detailed research about seventeenth-century Ottoman siege warfare concluded that although Ottoman siegecraft diverged from the Europeans, the Ottomans' favorite tactic of mining and sapping (as opposed to breaching and storming)

31 The above three paragraphs regarding Ottoman military transformations are based on Ágoston: *The Last Muslim Conquest*, 275–84, 315–28. On the household troops, see: İ. Metin Kunt, *The Sultan's Servants: The Transformation of Ottoman Provincial Government, 1550–1650*. New York: Columbia University Press, 1983, and Özgür Kolçak, "Yeniçeriler, Ümera Kapıları, Tımarlı Sipahiler: 1663–64 Osmanlı-Habsburg Savaşlarında Osmanlı Ordu Terkibi." In Kahraman Şakul ed., *Yeni Bir Askeri Tarih Özlemi: Savaş, Teknoloji ve Deneyisel Çalışmalar*. İstanbul: Tarih Vakfı Yurt Yayınları, 2013, 217–251. On the janissaries see also Abdulkasim Gül, *Yeniçeriliğin Tarihi*. 2 vols. İstanbul: Küre Yayınları, 2022.



remained very successful. Ottoman military engineers demonstrated tactical flexibility and adjusted their siege techniques to actual battle conditions. For example, they brought down the walls of the state-of-the-art fortification of Érsekújvár by the ancient “burnt-prop” method, that is, by burning the timber foundation of the fortress. The effectiveness of such an ancient technique warns against the fetishization of modern siege techniques.<sup>32</sup>

The exhausting wars of the 1550-1700 period also brought much destruction to the affected societies. However, the study of the impact of wars on the economy and society is the least developed field in Ottoman military history. Rhoads Murphey has pondered the destructive capacity of wars, discussed pragmatic Ottoman policies and negotiations to minimize the negative economic effects, and pointed out the profits that some local suppliers could realize by provisioning and supplying the troops. He also suggested that when examining the destructive capacity of wars, one should differentiate between the pre-artillery age and the artillery age wars. He thought that while the latter’s destructiveness was greater, this enhanced power “was applied in restricted form during intense but relatively brief confrontations.” The pre-artillery age wars, on the other hand, were characterized by “sustained raiding, gradual encirclement, harassment of enemy supply lines, embargo, blockade, and other forms of what might be termed economic warfare.” Therefore, their destructiveness was more significant in the long run.<sup>33</sup>

The suggestion is worth pursuing. Studies have shown the demographic and economic destructiveness of the perennial raids by Ottoman frontier raiders, the infamous *akıncıs* (numbering 10,000-20,000 men), in southern Hungary between the 1390s and the 1520s. However, the devastations wrought by artillery age wars, and the epidemics and famines that habitually accompanied such wars, also resulted in significant population losses. Frontier regions, where researchers can examine pre-Ottoman era sources (tax, ecclesiastical and manorial registers) together with Ottoman revenue assessments (*tahrir defteri*), and post-Ottoman era censuses, are especially promising. However, even in those cases, the estimates can only suggest general trends.

32 Kahraman Şakul, “Ottoman Siege Warfare in the Second Half of the Seventeenth Century.” In Hacer Kılıçaslan, Ömer Faruk Can, and Burhan Çağlar eds., *Living in the Ottoman Lands: Identities, Administration, and Warfare*. İstanbul: Kronik and OSARK, 2021, 287–300, based on the author’s recently published monographs. See, Kahraman Şakul, *Kamanîçe Kuşatması*. İstanbul: Timaş, 2021; idem, *Uyvar Kuşatması 1663*. İstanbul: Timaş, 2021; idem, *Çehrin Kuşatması*. İstanbul: Timaş, 2022.

33 Murphey, *Ottoman Warfare*, 170–71.

One such region is Ottoman Hungary. The country's population around 1494 is estimated at 3.5 to 4 million and about 3.0 million in the 1550s, reflecting the effects of Süleyman's campaigns and the wars in the 1550s. While the economy and population recovered after the Ottoman-Habsburg peace of 1568, the Long War of 1593-1606 brought unprecedented devastation, and the population had decreased from about 3.5 million in the 1570s to 3 million in 1598.<sup>34</sup>

To gauge the destructiveness of wars, one should remember that the sixteenth century witnessed significant population increases in Europe and the Ottoman Empire, especially in the inner provinces. For example, between the 1520s and the 1570s-1580s, the population of several sub-provinces (*sancak*) in Anatolia grew substantially: Adana by 142%, Amasya by 89%, Canik by 56%, Harput 306%, Kastamonu by 62%, Mosul 69%, Trabzon 43%, whereas that of the Balkan provinces increased by 70%.<sup>35</sup>

The wars in 1660-1664 and especially the Long War of 1683-99 and Ferenc Rákóczi's anti-Habsburg War (1703-1711), when Ottoman, Habsburg and *Kuruc* armies, and the irregular Crimean Tatar, and Hungarian *Hajdu* bands roamed the countryside, caused significant losses in lives and settlements. Despite migration from the northern Balkans, in the 1720s, the country's population was about 4 million. Of this, only about 50% was Hungarian, as opposed to some 70% at the end of the fifteenth century, indicating a loss of 600,000 to 800,000 people.<sup>36</sup>

Detailed studies can reveal the destructiveness of wars in smaller regions exposed to raids and wars. In Valkó county on medieval Hungary's southern border between the Rivers Drava and Sava, due to raids and wars from 1390 through the mid-sixteenth century, and especially after 1526, 72% of the settlements was destroyed or depopulated, resulting in the disappearance of 80% (around Erdut 90%) of the population. In Bács county almost all of the original population disappeared between 1526 and the mid-sixteenth century. Wars also

34 Géza Dávid, *Studies in Demographic and Administrative History of Ottoman Hungary*. Istanbul: Isis, 1997; Idem, *Pasák és bégek uralma alatt: Demográfiai és közigazgatás-történeti tanulmányok*. Budapest: Akadémiai Kiadó, 2005, 13–52. Zoltán Dávid, *Az 1598. évi házösszeírás*. Budapest: Központi Statisztikai Hivatal Levéltára, 2001, 32–35; idem, "Az 1715–20. évi összeírás." In József Kovacsics ed., *A történeti statisztika forrásai*. Budapest: Közgazdasági és Jogi Könyvkiadó, 1957, 145–199, and the essays by András Kubinyi, Géza Dávid, Vera Zimányi in József Kovacsics, ed., *Magyarország történeti demográfiája, 896–1995*. Budapest: Központi Statisztikai Hivatal, 1997.

35 Zafer Karademir, *İmparatorluğun Açıklıkla İmtihanı: Osmanlı Toplumunda Kitlıklar (1560-1660)*. İstanbul: Kitap Yayınları, 2014, 89.

36 Dávid, *Pasák és bégek uralma alatt*, 51–52.

changed the settlement pattern, as people deserted their smaller villages and sought refuge in larger villages and towns, resulting in much fewer but larger settlements.<sup>37</sup> The other trend was the flight of people from the south to the north, among them many Serbs, resulting in a change in the ethnic composition of the population.<sup>38</sup>

After the *akıncıs* were massacred in 1595 in Transylvania, the Tatars of the client Crimean Khanate took their strategic functions as the Ottoman army's light cavalry raiders and scouting troops. Some 10-30,000 Tatars regularly fought in Hungary in the late sixteenth and seventeenth centuries, pillaged with shocking cruelty, and set villages and towns ablaze, causing much devastation. The Tatars habitually ravaged Muscovy and Poland-Lithuania, killing and capturing tens of thousands and bringing annually about 10,000 slaves to the slave markets of the empire. Scholars have estimated the population losses of Poland-Lithuania and Muscovy from slave trading in the sixteenth and seventeenth centuries at 2 million people.<sup>39</sup>

One of the emerging fields in Ottoman warfare history is the study of campaign logistics. Based on Ottoman campaign treasury account books, way-station registers, pay registers, and other archival sources, these works have greatly enhanced our knowledge about the mobilization of military manpower, troop provisioning, and campaign financing.<sup>40</sup> However, one of the aspects that might

37 Pál Engel, "A török dúlások hatása a népességre. Valkó megye példája." *Századok* 134 (2000), 267-321. The destruction of 72% of settlements is especially high in light of data from five northeastern counties, where only about 10% of settlements, mainly small villages with less than five tax-unites called *portae* or about 60 to 70 people, had become deserted. In the district (*nahiye*) of Karaš (west of Osijek, Croatia) of the 62 settlements that existed around 1500 only 32 (52%) were inhabited around 1570. See idem, "A Drávántúl középkori topográfiája. A történelmi rekonstrukció problémája." *Történelmi Szemle* 1997, 3-4, 297-312.

38 Ferenc Szakály, "Serbische Einwanderung nach Ungarn in der Türkenzeit." In Ferenc Glatz ed., *Études historiques hongroises*. vol. 2. *Ethnicity and Society in Hungary*. Budapest: Institute of History of the Hungarian Academy of Sciences, 1990. 21-39, and idem, "Szerb bevándorlás a török kori Magyarországra." In Ferenc Glatz ed., *Szomszédaink között Kelet-Európában. Emlékkönyv Niederhauser Emil 70. születésnapjára*. Budapest: MTA Történettudományi Intézet, 1993. 75-88. idem, "Die Bilanz der Türkenherrschaft in Ungarn." *Acta Historica Academiae Scientiarum Hungaricae* 34, 1 (1988), 63-77.

39 Dariusz Kołodziejczyk, "Slave Hunting and Slave Redemption as a Business Enterprise: The Northern Black Sea Region in the Sixteenth to Seventeenth Centuries." *Oriente Moderno* 25, 1 (2006), 149-59.

40 Caroline Finkel, *The Administration of Warfare: The Ottoman Military Campaigns in Hungary, 1593-1606*, Vienna: VWGÖ, 1988; Mehmet İnbaşı, *Ukrayna'da Osmanlılar. Kama-niçe Seferi ve Organizasyonu (1672)*. İstanbul: Yeditepe, 2004; Halime Doğru, *Lehistan'da*

be explored in the future is the effects of army provisioning on local societies and economies.

### *Concluding Remarks*

Ottoman military history and the study of Ottoman warfare have come a long way in the past two decades, due largely to the extensive work done by Turkish scholars. The number of master theses and doctoral dissertations that examine individual wars and campaigns, especially campaign logistics, has mushroomed. While earlier studies were rather descriptive, they still provided precious data. More recent works engage the debates of the new military history. Some scholars have also compared Ottoman military capabilities to those of the empire's rivals, especially the Habsburg Monarchy and Romanov Russia.<sup>41</sup>

Research has shown that the Ottomans were a formidable military power in the sixteenth and seventeenth centuries. They established firepower and military superiority over their neighbors in southeastern and central Europe and the Middle East, due largely to their numerical superiority, self-sufficiency in weapons manufacturing and ammunition production, and better logistical and supply systems.

The Ottomans also influenced a vast region from the Mediterranean and cen-

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*bir Osmanlı Sultanı IV. Mehmed'in Kamanice-Hotin Seferleri ve Bir Masraf Defteri.* İstanbul: Kitap Yayınevi, 2006; Hakan Yıldız, *Haydi Osmanlı Seferi: Prut Seferinde Lojistik ve Organizasyon*, İstanbul: Türkiye İş Bankası Yayınları, 2006; Mehmet Yaşar Ertaş, *Sultan'ın Ordusu: Mora Fethi Örneği 1714–1716*. İstanbul: Yeditepe, 2007; Ersin Gülsoy, 2004. *Girit'in Fethi ve Osmanlı İdaresinin Kurulması (1645–1670)*. İstanbul: Tarih ve Tabiat Vakfı, 2004; Temel Öztürk, *Osmanlıların Kuzey ve Doğu Seferlerinde Savaş ve Trabzon*. Trabzon: Serander, 2011; Serhat Kuzucu, *Osmanlı Ordusu ve Sefer Lojistiği (1453–1789)*. İstanbul: Kitabevi, 2017.

- 41 See, for instance, Virginia Aksan, "Locating the Ottomans Among Early Modern Empires." *Journal of Early Modern History* 3 (1999), 103–134, eadem, "The Ottoman Military and State Transformation in a Globalizing World." *Comparative Studies of South Asia, Africa and the Middle East* 27, 2 (2007), 159–72; eadem, *Ottoman Wars 1700–1870*, and eadem, *The Ottomans, 1700–1923*; Gábor Ágoston, "Empires and Warfare in East-Central Europe, 1550–1750: The Ottoman-Habsburg Rivalry and Military Transformation." In Frank Tallett and D. J. B. Trim eds., *European Warfare, 1350–1750*. Cambridge: Cambridge University Press, 2010, 110–34; idem, "The Ottoman Wars and the Changing Balance of Power along the Danube in the Early Eighteenth Century." In Charles W. Ingrao, Nikola Samardžić, and Jovan Pešalj eds., *The Peace of Passarowitz, 1718*. West Lafayette, IN: Purdue University Press, 2011, 93–108; idem, "Military Transformation in the Ottoman Empire and Russia, 1500–1800." *Kritika: Explorations in Russian and Eurasian History* 12, 2 (2011), 281–319.

tral Europe to Safavid Persia, where rulers and elites had to adjust their defense and military capabilities to counter Ottoman expansion. Scholars have shown how Ottoman firepower superiority at the Battle of Çaldıran accelerated the integration of firearm technology in the Safavid army and how Ottoman expansion and military superiority spurred military, administrative, and fiscal reforms in late medieval Hungary and the Habsburg Monarchy in the sixteenth and seventeenth centuries.<sup>42</sup> They also demonstrated the flexibility and adaptability of the Ottoman military, which successfully adjusted to the needs of different tactical and geographical environments, fighting against a host of enemies, including Turcoman and Kurdish nomads in Asia Minor, Byzantines, Bulgarians, Serbians, Albanians, and European crusaders in southeastern Europe, Mamluks in Syria and Egypt, Safavids in Iraq and Iran, Georgians in the Caucasus, Hungarians, Croatians, Habsburgs, and the latter's German, Italian, and Spanish mercenaries in Hungary, Poles, Cossacks, and Muscovites in eastern Europe.

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42 Halil İnalçık, "The Socio-Political Effects of the Diffusion of Fire-arms in the Middle East." In Parry and Yapp eds., *War, Technology and Society*, 195–217; Salih Özbaran, "The Ottomans' Role in the Diffusion of Fire-arms and Military Technology in Asia and Africa in the Sixteenth Century." In idem, *The Ottoman Response to European Expansion*. Istanbul: Isis, 1994, 61–66; idem., *Ottoman Expansion*, 273–282; Gábor Ágoston, "Firangi, Zarbzán, and Rum Dasturi: The Ottomans and the Diffusion of Firearms in Asia." In Pál Fodor, Nándor E. Kovács and Benedek Péri eds., *Şerefe. Studies in Honour of Prof. Géza Dávid on His Seventieth Birthday*. Budapest: Research Center for the Humanities of the Hungarian Academy of Sciences, 2019, 89–104.



## Warfare in Early Modern Inner Asia (circa 1500-1800)

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The primary mode of warfare in Inner Asia throughout history may be better defined as “steppe warfare”. By this, I mean warfare carried out by nomadic cavalry, typically horse-archers wielding a powerful composite bow, although lancers made their appearance as well. Tactics included feigned retreats, flanking and double envelopment maneuvers. In terms of strategy, the primary goal was to find the enemy’s army (be it nomadic or sedentary) and destroy it. Attacks against neighboring sedentary states were less about conquest and more about the acquisition of goods. Raids were used as a political and economic tool to wear out the enemy and force them to either submit or negotiate for favorable trade terms.<sup>1</sup> The raids could, as was sometimes intended, to acquire territory with favorable pastures or access to trading centers. While occasionally an empire arose with grander territorial designs, in general, steppe warfare across the Eurasian steppes fit this mold. The combination of the bow and horse made the steppe horse-archer the most feared warrior across Eurasia for two millennia. Events in the early modern period ended this dominance, but it was not simply due to technological change, particularly the introduction of firearms.

As noted by many, the idea of the early modern military revolution as defined by Michael Roberts in 1955 is flawed.<sup>2</sup> While there might be some merit

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- 1 For more on steppe warfare in general see: Peter Golden, *Central Asia in World History* (New York: Oxford University Press, 2011); Timothy May, *The Mongol Art of War* (Barnsley, UK: Pen & Sword, 2007, 2016); Svat Soucek, *A History of Inner Asia* (Cambridge: Cambridge University Press, 2000).
  - 2 Michael Roberts, *The Military Revolution, 1560-1660. An inaugural lecture delivered before the Queen’s University of Belfast* (Belfast: Marjory Boyd, 1956); For a general review of criticism of Roberts’ work see Jeremy Black, *A Military Revolution? Military Change in European Society, 1550-1800* (Atlantic Highlands, NJ: Humanities Press International, Inc., 1991), 1-2; Geoffrey Parker, *The Military Revolution: Military Innovation and the rise of the West 1500-1800*, 2<sup>nd</sup> ed. (Cambridge: Cambridge University Press, 1996, rpt. 2010), 1-2.

in his study of the changes in military affairs and tactics in the United Provinces and the resulting impact on the success of Gustavus Adolphus of Sweden, once applied to other regions of the world, its weakness as a “revolution” become apparent. This is especially true for the region of Inner Asia, roughly defined as the steppes east of Lake Balkhash, extending to Manchuria, and including eastern Turkestan (modern Xinjiang Autonomous Region) and Tibet. These flaws should not be surprising, as Roberts’s model was in Europe with a very different culture, society, climate, and geography than that of Inner Asia. Whereas Roberts’ military revolution hinged on firearms-wielding infantry firing by volley, warfare in Inner Asia at the dawn of the early modern period remained heavily dependent on armies of horse-archers. The refinement of the military revolution thesis by Geoffrey Parker does not drastically alter the situation for Inner Asia. Indeed, when looking at the map included in the second edition of Parker’s *The Military Revolution*, Inner Asia is simply a white black space, unintentionally noting the apparent lack of impact by the “military revolution”.<sup>3</sup> Whereas Parker points to the lance and pike being replaced by arrow and musket in Europe, the arrow did not exit from Inner Asian warfare. Armies did gradually adopt muskets, but they did not have the same dramatic impact on warfare for reasons that will be discussed later. Additionally, Parker points to a growth in size of armies. Inner Asia was an anomaly. While Inner Asian armies no longer reached the size once produced by the Mongol Empire, which at its height had approximately 1 million horse-archers under its banners and easily the same number of non-nomadic troops at its disposal, Inner Asia moved in reverse for the most part in this respect.<sup>4</sup> The armies could still be sizeable, but rarely reached the size of the armies of the previous period for reasons that will be discussed later. Parker also points to the adoption of “more ambitious and complex strategies” to bring these larger armies to the field.<sup>5</sup> Again, steppe warfare had been doing this for centuries. Indeed, even during the fractious sixteenth century, steppe warfare required Inner Asian armies to routinely operate across hundreds of miles. At first glance, the early modern military revolution did not have an inordinately larger impact on society than in previous eras.

As every male nomad was capable of military service, life went on as before. Nonetheless, we must also be wary of falling into the trap of viewing steppe warfare as timeless and unchanging. Indeed, the early modern period did lead

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3 Parker, *The Military Revolution*, xix.

4 May, *The Mongol Art of War*, 28.

5 Parker, *The Military Revolution*, *passim*; Black, *A Military Revolution*, 2.

to changes, including the use of firearms and some changes in tactics and strategies. To be fair, Parker noted that even in the early seventeenth century, the eastern portion of the Great European Plain was resistant to the military revolution as he defined it. There is no reason why the steppes of Inner Asia would be different as the general conditions of warfare were similar.<sup>6</sup> The question remains as to whether or not the so-called military revolution revolutionize Inner Asian warfare, and if so, how?

### *Units and Weapons*

Whereas most of Western Europe embraced the use of pike and arquebus in the period of 1500-1650, in Inner Asia these weapons were not practical.<sup>7</sup> Both were infantry weapons. While infantry could certainly fight in the steppes, cavalry remained supreme in Inner Asia and specifically the horse-archer that had dominated the steppe since era of Cyrus the Great (d. 530 BCE). Two factors played into this. The first was, quite simply, the access to numbers of horses available and the fact that they were pasture-fed, rather than stabled, did not cause the financial burden that cavalry created in Europe and other sedentary areas.<sup>8</sup> Horses were crucial to the economic mode of pastoral nomadism and as a result, the nomadic warriors learned to ride at an early age.<sup>9</sup> Secondly, the vast distances of Inner Asia, made infantry impractical in most situations. As demonstrated in the incursions by the Ming Empire (1367-1644) into Mongolia, infantry required wagons to carry their food and other equipment. A soldier could not simply carry sufficient rations and water to reach the enemy on their own. Draught animals, usually oxen or donkeys, then pulled the wagons and carts, or Bactrian camels carried supplies. None of these animals moved at a rapid pace and the animals also required additional fodder that then also had to be transported.

Logistical difficulties prevented long campaigns and key to any successful campaign was the calculus in determining how many days of rations one could

6 Parker, *The Military Revolution*, 37-38.

7 Black, *A Military Revolution*, 10.

8 For costs of horses in Europe see Parker, *The Military Revolution*, 69-70.

9 For an overview of pastoral nomadism see Anatoly M. Khazanov, *Nomads and the Outside World*, 2<sup>nd</sup> ed., trans. Julia Crookenden (Madison: University of Wisconsin Press, 1994; for an overview of political and social aspects see David Sneath, *The Headless State: Aristocratic Orders, Kinship Society, and Misrepresentations of Nomadic Inner Asia* (New York: Columbia University Press, 2007).

carry to sustain an army in the field and how deep in the steppe and deserts (Gobi and Alashan) one could go before returning to the safety of the border before depleting those supplies. Furthermore, one had to consider unexpected circumstances such as weather events that could lead to delays and thus privation. Additionally, too often the opponent retreated before the advancing army, only to appear again when the retreat (no matter how well organized) began. Stragglers were killed or captured and the nomads typically harried and worried the retreating army so that the extra vigilance necessary to prevent mistakes, which added to the stress of command, thus increasing the likelihood of tactical error as well as resulting delays and logistical disaster.<sup>10</sup>

In terms of weaponry, firearms did appear in Inner Asian warfare, but was not a decisive weapon. While in Europe, the pike replaced the lance, but as cavalry remained supreme the lance continued to be used, but it was an ancillary weapon and rarely ever a primary weapon of war for the nomads of the eastern steppes. While a bristling hedge of pikes could theoretically keep cavalry at bay, they were largely useless against an enemy that could safely sit out of reach and shoot arrows into the mass. Even if units of pike and arquebus or crossbows were used, they were not as effective as in Europe due to the nature of the horse-archer. As infantry were rare among the nomadic forces, the pike never became a key weapon of war. Neither the crossbow nor the arquebus was a suitable replacement for the composite bow as these weapons did not offer a significant advantage over the composite bow. While the crossbow could be more accurate, its slow rate of fire and reloading could negate any advantage. A typical horse archer could easily shoot a minimum of 6 to 15 well aimed arrows during the same time. The arquebus was cumbersome and often necessitated a stand in order to produce accurate aiming. Even then, the smoothbore nature of the weapon only permitted reasonable accuracy to 100 meters, although with enough numbers and volley fire, aiming was not crucial against massed formations. While the appearance of the musket in the mid-late sixteenth century allowed faster reloading, it was still painfully slow.<sup>11</sup> Unfortunately, the Inner

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10 Wayne E. Lee, *Waging War: Conflict, Culture, and Innovation in World History* (Oxford: Oxford University Press, 2016), 282; Morris Rossabi, *China and Inner Asia, From 1368 to the Present Day* (New York: Pica Press, 1975), 42-43. Many examples of logistical challenges for sedentary armies entering the steppes exist throughout history.

11 Parker, *The Military Revolution*, 17; Donald Ostrowski, "The Replacement of the Composite Reflex Bow by Firearms in the Muscovite Cavalry", *Kritika* 11, no. 3 (2010), 513. Parker notes that a well-trained archer could fire ten arrows a minute. In the European context, the archer would be on foot and stationary.

Asian nomadic horse-archer did not always cooperate. Certainly, the power of the arquebus and musket negated the effectiveness of virtually all armor, but armor-piercing arrows shot from a composite power proved to be quite effective as well.<sup>12</sup> Furthermore, unlike late medieval Europe, the nomads did not seek to counter this by increasing their armor, thus the armor penetrating power of an arquebus had little to offer. Furthermore, while the weapon was slow to load on foot it was nigh impossible to load on horseback much less while on a galloping horse.<sup>13</sup>

To be clear, armies did employ firearms in Inner Asian warfare. The Ming used cannon of various types in their frontier defenses against various enemies emerging from Mongolia. Also, the Ming Empire's (1368-1644) armies were adept at volley by rank tactics among firearm-wielding infantry. Additionally, they often deployed combined arms units, thus the "musketeers" were not isolated and vulnerable to melee.<sup>14</sup> Despite the continued improvement of cannons, based on Portuguese and then Dutch models, cannons still tended to be unwieldy in the steppes. While the Ming brought them in the steppes, it is difficult to ascertain their offensive capabilities, although they still performed an important tactical role as discussed below. The Mongols prior to the mid-seventeenth century, despite numerous encounters with them during wars with the Ming, never adopted cannon.<sup>15</sup> It is uncertain why, but may have to do with recognizing that they were cumbersome to transport at this time, thus depriving the nomads of their mobility, but also the basic lack of a gunpowder manufacturing industry. They would have been dependent on procuring supplies from elsewhere, and the likelihood of that was negligible in the sixteenth century as the Russians were still exploring Siberia and on occasions where Inner Asia groups attempted to acquire firearms through trade, the Russians demanded submission as part of the exchange. Although firearms existed in Central Asia in the Uzbek Khanate, quantities were still limited as they themselves were reliant on Ottoman expertise.<sup>16</sup> Carbines, being shorter and easier to use on horseback, and pistols slowly

12 Parker, *The Military Revolution*, 17.

13 For a nice summary of the many reasons why fire-arms failed to make inroads with nomads see Scott C. Levi, *The Bukharan Crisis: A Connected History of 18<sup>th</sup>-Century Central Asia* (Pittsburgh: University of Pittsburgh Press, 2020), 152-161.

14 Lee, *Waging War*, 280-281.

15 Fred W. Bergholz, *The Partition of the Steppes: The Struggle of the Russians, Manchus, and the Zunghar Mongols for Empire in Central Asia, 1619-1758* (New York: Peter Lang, 1993), 172.

16 Levi, *Bukharan Crisis*, 154-55.



found their way into nomadic arsenals.<sup>17</sup> In reality, however, they were prestige weapons of what now might be termed “early adopters”. Carbines and pistols had an even more limited range, thus they were effectively “one-shot” weapons that perhaps could be employed in close quarters to devastating effect. Yet, even when carried, they were in addition to the composite bow.

During the Qing Empire (1636-1911), cannon played an increasing role in Inner Asian warfare due to their conflict with the Zunghar Khanate.<sup>18</sup> The Kangxi (1662-1722) emperor made two forays into Mongolia against Galdan Khan (r. 1678-1697), leader of the Zunghar Khanate (1634-1758), in 1690 and 1696. While difficulties in transporting cannons across the steppe, as well as other logistical issues, continued to limit the range of the Qing’s expeditions, as they did the Ming, the Qing demonstrated increased logistical ability and the cannons proved their worth. Cannons proved even greater in defensive operations such as at the battle of Ulan Butong, 320 km from Beijing, where the Qing defeated Galdan Khan on 3 September 1690, although he too had his own artillery.<sup>19</sup> In the seventeenth and early eighteenth century, handguns became increasingly common. The Zunghars and the Qing both carried handguns and cannons on campaign, but they were typically employed in static defensive positions. Furthermore, during the reign of Galdan, the Zunghar had developed a fledgling fire-arm industry that also produced gunpowder. The introduction of flintlock muskets, which could be reloaded faster and were more practical than match locks made them more desirable, although they did not completely replace archery.<sup>20</sup> The composite bow remained the most effective weapon offensively due to rate of fire. Nonetheless, as firearms continued to be refined, the composite bows’ day rapidly came to close particularly as cannon became increasingly mobile in the 1700s.<sup>21</sup> The Zunghars, beginning with Galdan, loaded his cannons onto camels.<sup>22</sup> These were not the small anti-personnel swivel guns found

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17 Levi, *Bukharin Crisis*, 158-59.

18 The best account of the conflict is Peter C. Perdue, *China Marches West: The Qing Conquest of Central Eurasia* (Cambridge, MA: Harvard University Press, 2005). Bergholz, *The Partition of the Steppe*, is also useful and offers some different perspectives.

19 Peter C. Perdue, “Fate and Fortune in Central Eurasian Warfare: Three Qing Emperors and Their Mongol Rivals”, in Nicola Di Cosmo, ed., *Warfare in Inner Asian History (500-1800)* (Leiden: Brill, 2002), 374-75; Perdue, *China Marches West*, 154-159.

20 Lorge, *The Asian Military Revolution*, 167; Levi, *The Bukharan Crisis*, 156-57.

21 Jeremy Black, *European Warfare in a Global Context, 1660-1815* (New York: Routledge, 2007), 34.

22 Perdue, *China Marches West*, 306

in India, but actual field cannon. Affixed to a saddle, the saddle could then be unloaded and used, with the aiming conducted by tilting the saddle to the proper height. Also, as evinced at Ulan Butong, the camels could be used as makeshift wall by hobbling them and draping them with protective layers of felt.<sup>23</sup> Combined with grape and canister shot, well deployed cannon nullified the many advantages of horse-archers.

Until this happened, however, the composite bow combined with the mobility of the Mongolian horses, gave the advantage to the Mongols in their engagements against the Ming and others. By the time the technology progressed, the nomads, lacked the technical skill to produce firearms and the necessary other materials (gunpowder) or to purchase them in sufficient quantities to compete with either the Russians or the Qing.<sup>24</sup>

### *Army Size*

Although the Mongol Empire was no more, the nomads of Inner Asia still proved to be a potent force, which was recognized by the Ming Empire. It is for this reason that the Ming sought to attract Mongols to their service.<sup>25</sup> Furthermore, both the Hongwu (r. 1368-1398) and Yongle (r. 1402-1424) emperors recognized that under competent leadership, the Mongol horse archers not only dominated the battlefield, but also threaten fortified settlements. Despite their own military successes and ability, the greatest deterrent to Mongol military ability was their own internecine warfare, which the Ming (and others) were happy to exploit.

While the nomadic people of Inner Asia possessed a smaller population than their sedentary neighbors, they could still mobilize large armies, particularly under a strong leader. In 1532, the Mongols invaded the Ming Empire with 100,000 men.<sup>26</sup>

Zunghar armies did not approach the size of those used by the Mongols in the sixteenth century. Nonetheless, they remained sizeable and provide a glimpse of what could have been had the Zunghars been successful in unifying the eastern

23 Perdue, *China Marches West*, 155.

24 Bergholz, *Partition of the Steppes*, 406.

25 See David M. Robinson, *In the Shadow of the Mongol Empire: Ming China and Eurasia* (Cambridge: Cambridge University Press, 2020).

26 Dmitrii Pokotilov, *History of the Eastern Mongols During the Ming Dynasty from 1367 to 1634*, trans. Rudolf Loewenthal (Arlington, Va: University Publications of America, Inc., 1976), 104.

steppes as well as why the Qing's success at attracting Mongol support away from their rivals was such a key to their success. In 1686, Galdan Khan attacked the Tüshiyetü Khan with an army of 30,000.<sup>27</sup> While he was aided by the Jasaktu Khan, the majority were Zunghar Mongols. Both the Jasaktu and Tüshiyetü Khans were Khalkha Mongol rulers. Had he been successful, it is not unreasonable to believe that Galdan would have doubled (at least) his troop strength. Meanwhile, the Ming and Qing could assemble armies ranging from 10,000 to 100,000 men. It was not unusual for them to send multiple armies of tens of thousands. Overtime, however, the Qing tended to use smaller forces of 10,000 to 30,000 that were more mobile when fighting in the steppe, which also help negate logistical issues as fewer carts and wagons were necessary.

### *Tactics and Strategy*

While Parker argues that in Europe the increasing emphasis on firepower in Europe led to the preference of infantry over cavalry "...led not only to the eclipse of cavalry by infantry in most armies, but to new tactical arrangements that maximized the opportunity of giving fire"<sup>28</sup>, this did not occur in Inner Asia. Cavalry continued to be supreme and the emphasis on firepower (typically via the horse-archer) had always been the key to steppe warfare as discussed previously. As with all wars, leadership makes a difference and leaders who effectively used the units and weapons they possessed could defeat less competent leaders with better and larger armies. This is not to say, however, that the tactics and strategies used on the battlefield and in planning campaigns did not change.

After the Ming drove the Mongols from China in 1368, the Yuan Empire (1260-1388) dreamt of recovering that territory, as did some of the early Northern Yuan khans (1388-1636). By the fifteenth century, while some Mongols may have clung to this dream, it was simply no longer realistic. Thus, the military strategy changed. They largely reverted to the basic strategy of many pre-Mongol Empire steppe polities, often termed as "trade or raid".<sup>29</sup> If the nomadic leaders could not procure favorable trade terms with the Ming, then they raided the

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27 Peter C. Purdue, "Fate and Fortune in Central Eurasian Warfare: Three Qing Emperors and Their Mongol Rivals", in Nicola Di Cosmo, ed., *Warfare in Inner Asian History (500-1800)* (Leiden: Brill, 2002), 374.

28 Parker, *The Military Revolution*, 24.

29 See Sechin Jagchid and Van Jay Symons, *Peace, War and Trade Along the Great Wall: Nomadic-Chinese Interaction through Two Millennia* (Bloomington: Indiana University Press, 1989).

frontier. While the raids procured goods and wealth, they also served as a means of persuasion. For both the Ming and the Mongols, economic considerations were strongly tied to their military strategy on the frontier.

A significant tactical and strategic change that occurred was the increase use of fortifications, particularly with aspects *trace italienne* style, which was in line with Parker's description of the military revolution. While Inner Asian fortifications did not copy the *trace italienne*, like that style, the emphasis was on earthen walls, which better absorbed cannon shot. The use of fortifications by states bordering the steppe is well documented and not new and eventually culminated with the building of the Great Wall.<sup>30</sup> As with previous eras, defensive walls, primarily of tamped earth, were constructed to counter the mobility of the nomads. While it was impossible to man every foot of the wall, the idea was to establish a presence, claim territory, and control where the nomads had access to the interior. In the sixteenth century, cannons became a significant part of the defenses of the Ming Empire's northern frontier. While it is questionable how accurate they could be against individual fast moving targets, the cannons could certainly break up mass formations as well as sow terror and panic among men and horses and with their superior range, the cannons had the potential to halt raids before they occurred. The defensive works also provided protection for garrisons to reload their arquebuses.<sup>31</sup>

Part of the emphasis on walls and other fortifications by the Ming was that the Mongols had become quite adept in their own raiding strategies. They had learned the patterns and nature of assembling Ming armies to counter them, thus the Mongols could attack and the depart with their booty before the Ming force could pursue. Indeed, some of Ming armies were only stationed along the frontier seasonally, in autumn when Mongol attacks were more likely. This is what led the Ming general Weng Wanda to establish permanent watch-posts and garrisons with sufficient men to patrol a section of the border. While this force may not have been sufficient to deter all attacks, it could at least slow Mongol depredations and allow reinforcements to arrive.<sup>32</sup> He also argued that defenses would be more effective than seasonal campaigns against the Mongols, not

30 See Arthur Waldron, *The Great Wall of China: From History to Myth* (Cambridge: Cambridge University Press, 1990); Nicola Di Cosmo, *Ancient China and Its Enemies: The Rise of Nomadic Power in East Asian History* (Cambridge: Cambridge University Press, 2002).

31 Tonio Andrade, *The Gunpowder Age: China Military Innovation and the Rise of the West in World History* (Princeton: Princeton University Press, 2016), 112, 142; Lee, *Waging War*, 283-284; Lorge, *The Asian Military Revolution*, 75-76.

32 Pokotilov, *History of the Eastern Mongols*, 108-109.

only due to the cost of outfitting an army to march into the steppe for two or three months, but also due to vagaries of the battlefield and weather (attacking in winter or spring when the Mongol horses are not at their peak). The effectiveness of Wanda's plans are apparent in that once his plan was set in place in area, the Mongols shifted their attacks to other regions. Wanda also recognized that despite improved defenses, the great cost made it more beneficial to find a peaceful solution for the long-term, particularly when the main opponent (Altan Khan (1507-1582, r. 1571-1582) was open to peaceful commercial relations.<sup>33</sup> Often, however, the peace and trade requests made by Mongol leaders were often denied, in part because some in the Ming court felt that peace conditions, particularly as they were made with numerous Mongol leaders and not just a single ruler, might actually cost the Ming more than the annual upkeep of the garrisons. One must question this, as despite the expansion of fortifications, Ming sources record numerous Mongol raids on the northern border from 1578 (when the Ming rejected Altan Khan's peace overtures) to 1605.<sup>34</sup>

Additionally, the Ming used mobile fortifications when entering the steppe. This was part of an envisioned reorganization of the Ming army, at least along the steppe frontier. The Ming added a wagon brigade alongside contingents of cavalry and infantry. Each wagon had a complement two 10-man squads. One possessed six gunners who manned the two swivel guns affixed to the wagon. The second squad, armed with arquebuses and other weapons defended the wagons from the outside, using mobile shields or walls, which served as a wagon panels while in transit. The exterior squad usually functioned with half serving as loaders while the others fired, thus providing a somewhat continuous fire. A typical brigade consisted of 145 wagons and often possessed a few larger cannon in addition to the swivel guns. These proved to be effective in the field, but as Kenneth Chase argues, this brigade's *raison d'être* was to defend against Mongol attacks.<sup>35</sup> While the Ottomans deployed similar formations, it is easy to see that the wagon brigade would be difficult to deploy in battles against more mobile forces, but would provide a mobile fortified base of operations, which would be essential when campaigning in the steppes.

In general, the use of fortifications and other defensive works by the Ming, Qing, and Russians on the edges of Inner Asia mirrored events in Europe. In

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33 Pokotilov, *History of the Eastern Mongols*, 110-111.

34 Pokotilov, *History of the Eastern Mongols*, 138-142.

35 Kenneth Chase, *Firearms: A Global History to 1700* (Cambridge: Cambridge University Press, 2003), 162-164; Lee, *Waging War*, 284; Andrade, *The Gunpowder Age*, 180.



his discussion of French fortifications, Jeremy Black indicates that these “were designed to consolidate acquisitions, and yet also to facilitate opportunities for fresh gains by increasing France’s presence in contested areas, and safeguarding bases for operations, not least where stores could be accumulated.”<sup>36</sup> Black’s statement could apply to most expanding sedentary states throughout history. It also marks a sharp contrast with the views of nomadic perspective, which viewed control over people as essential rather than the land itself. Although the latter is a simplification, while nomadic states did control towns and other settlements, nomads rarely erected fortifications as it robbed them of the nomads’ key military advantage—mobility. If you build something, then there is a temptation to hold it. For centuries, nomads had defeated sedentary invaders by retreating and overextending their pursuers. To be sure, pre-modern sedentary states had realized the importance of fortifications, but there were limits on the extension of fortifications based not only on manpower and military projection, but also the logistical aspect. Not until the late seventeenth and eighteenth century did it become feasible to harness imperial power and administrative reach to maintain distant fortifications. The fortifications also served as force multiplier and eliminated the need of keeping large armies on the frontier, which (at least in the case of the Ming Empire) had rarely thwarted Mongol raids.<sup>37</sup> This is not to say that the nomads couldn’t consolidate their positions. In the early 1500s, Mongol attacks in the Ordos Loop and Liaodong led not only to the defeat of the Ming forces, but to Mongol settlement while the Ming armies remained behind their fortifications, not daring to enter the field against the Mongols.<sup>38</sup> Indeed, similar results occurred in Ningxia and Gansu.<sup>39</sup>

Mongol strategy changed in the early seventeenth century. As Ligdan Khan (r. 1603-1634), the khan of the Chaqar Mongols, became the khan of the Northern Yuan dynasty (and thus the theoretical ruler of all the Mongols), he sought to create a more robust and centralized state than his predecessors. Part of this included controlling frontier Chinese frontier towns, and thus having better control over the horse market. It was Ligdan’s seizure of Guangming in 1619 that brought him into conflict with the Qing. Both the Northern Yuan and the Qing recognized that a key to building their states, and also their war efforts was access to revenues, markets, and food supplies. For Ligdan, it was perhaps even

36 Black, *European Warfare*, 57.

37 Pokotilov, *History of the Eastern Mongols*, 98.

38 Pokotilov, *History of the Eastern Mongols*, 84-85; 104-108.

39 Pokotilov, *History of the Eastern Mongols*, 85-87, 98.

more important for regional dominance. While Ligdan had tenuous agreements with the Manchus against the Ming, Ligdan's seizure of a city in what the Manchus considered their sphere of influence, brought them at odds.<sup>40</sup>

A key sign that improvements in military technology and improved defenses were only a partial solution was the use of strategic diplomacy. The Ming frequently tried to blunt Mongol attacks by forming alliances with rival Mongol leaders. During the primacy of the Chaqar leader and Northern Yuan Khan, Ligdan Khan, the Ming briefly considered making alliances with all other Mongol tribes against him. Eventually, however, it was decided that they could kill two birds with one stone by allying with Ligdan Khan against the Manchus in 1618.<sup>41</sup> The alliance was imperfect as his lieutenants still raided, but these eventually subsided as Manchu power grew. Ligdan's heavy-handed rule over the Mongols, however, drove many eastern Mongols into the hands of the Manchus. Punitive attacks by Ligdan only cemented their loyalty to the Manchus, who sheltered any refugee fleeing the Chaqar leader. Hong Taiji (r. 1627-1643), the Manchu Emperor carried a campaign against Ligdan Khan in which Manchus and Mongols fought against their common enemy in 1632. Ligdan's defeat in 1633 led him to flee and regroup at Köke Nuur in Qinghai. Here, however, he succumbed to small pox in 1634, ending the possibility of restoring Northern Yuan control over southern Mongolia.<sup>42</sup>

The Qing's wars and alliances with the Mongols also bring their philosophies of war into sharp relief. The nomads preferred raiding and were open to field battles. All of this required meticulous planning, particularly in the early stages of assembling the army.<sup>43</sup> The raids were not conducted on a whim as troops traveled long distances to rendezvous points. Timing and punctuality were important as failure to arrive within the prescribed time could have deleterious effects. Also waiting too long also put the army in danger as it could exhaust the available pasture while also leaving the assembling army vulnerable to a pre-emptive attack. Indeed, the key goal of any campaign was to locate and then attack the enemy's base or army and destroy it. Those who failed to arrive at the agreed time and place risked sanction, including retaliation (as it could be

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40 Nicola Di Cosmo, "Military Aspects of the Manchu Wars against the Čaqars", in Nicola Di Cosmo, ed., *Warfare in Inner Asian History (500-1800)* (Leiden: Brill, 2002), 337-338.

41 Pokotilov, *History of the Eastern Mongols*, 147-148.

42 Pokotilov, *History of the Eastern Mongols*, 148; Di Cosmo, "Military Aspects of the Manchu Wars", 339-340.

43 Di Cosmo, "Military Aspects of the Manchu Wars", 340.

viewed as a betrayal), sanctions and fines.<sup>44</sup> The military planning of the campaign was very schedule based due to logistical concerns. The Mongols fought wars in a series of attacks or raids on an area that either induced the inhabitants (regardless of nomads or sedentary) to flee to surrender. A key principle of any strategy also took in the logistical issue of pasture for the horses. This played a role not only in where the Mongols could camp, but also the routes they took. As the horses were not fodder-fed, access to grass remained paramount.<sup>45</sup>

The Qing also had clear frustrations with steppe warfare, particularly the assembling of troops. The steppe is a vast area. Nurhaci, the Qing founder, proposed to some Mongol allies that they should switch from their open-mobile camps to fortresses and to transition from field battles to sieges. His reasoning was that risking field battles was a roll of the dice, it was cowardly to fight and flee into the steppes, but attacking a fort was honorable. Additionally, having a fortress also meant that there was set and easily recognized place of rendezvous where supplies could also be properly stored. Furthermore, if the Chaqar attacked the fortress, messengers could be sent to request aid from the Manchus, who would then know exactly where to send the army.<sup>46</sup>

Building towns and forts were not unknown to the Mongols. Indeed, many Mongol khans had built cities, such as Altan Khan's Kōkō-Qot (Blue City, modern Hohhot) and even Ligdan Khan build a capital called Chaghan Qot (White City). Yet, these were less permanent residences for the ruler than administrative centers. They had some defensive structures, but were not conceived as fortifications comparable to the fortified cities of the Ming or Qing. Furthermore, the Mongols throughout the sixteenth and early seventeenth century had success in capturing towns. It is not always clear how this occurred; they also lost them just as quickly. In one instance, Qaracin Mongols captured a town for the Manchus. However, after doing so, the majority then departed the city to nomadize. Once the Ming realized this, they simply walked in and recaptured the undefended city.<sup>47</sup>

Leadership is always crucial in tactical and strategic decisions. The Zunghars proved formidable foes, and while many factors contributed to their defeat by the Qing, at least some blame must be placed squarely on the Zunghar leadership. At the Battle of Ulan Buton (3 September 1690), located in modern Inner

44 Di Cosmo, "Military Aspects of the Manchu Wars", 343-344.

45 Di Cosmo, "Military Aspects of the Manchu Wars", 355-56.

46 Di Cosmo, "Military Aspects of the Manchu Wars", 351-54.

47 Di Cosmo, "Military Aspects of the Manchu Wars", 354.

Mongolia and 300 km north of Beijing, Galdan had swept through the Khalkha territories (modern Central and Eastern Mongolia), and pushed into Qing-held southern Mongolia. He encountered the Qing at Ulan Butong and proceeded to negate all of his advantages. In his eagerness to destroy the Qing army, he allowed them the initiative and the battleground. Galdan's forces were positioned in a lightly wooded area hemmed by hills, which negated the superior mobility. Furthermore, he formed a *tuo cheng* or camel wall, by hobbling his supply camels, who were also protected with layers of felt, to form a defensive work after the Qing defeated the Zunghar left wing, which fled the battlefield. This permitted the Zunghars to use cannons (which were transported via the camels), and other firearms. Tactically, the *tuo cheng* staved off further Qing attacks, but Galdan also benefited when the Qing artillery and cavalry became bogged down in marshy terrain when they tried to outflank the Zunghars. Galdan successfully withdrew. Both sides could claim victory: the Qing for ending Zunghar efforts in southern Mongolia; Zunghars for being able to withdraw largely intact. Ultimately, Fuquan, the Qing commander, was punished for allowing Galdan Khan to escape.<sup>48</sup> Galdan's failure was not taking advantage of his mobility and luring the Qing deeper into the steppes. Indeed, the Qing commander did not pursue the defeated Zunghars precisely because he was running low on supplies but also hampered by bad weather, which then made the ground marshy and limited the movement of not only his cavalry and artillery, but also the supply carts.<sup>49</sup> Had Galdan used the traditional strategy of attacking when the army when it began the return journey, Galdan may have succeeded in gaining a decisive victory.

At the battle of Jao Modo or Zuunmod (Battle of the Hundred Trees) (12 June 1696), Galdan initially demonstrated good strategic sense. Upon learning that the Kangxi Emperor was invading the Khalkha territories (then under Zunghar control) with three armies (80,000, 30,000, and 10,000 respectively) accompanied by 235 cannons carried by camels, he fled. By the time Kangxi had reached Galdan's now deserted camp on the Kerülen (modern Kherlen) River, he was already at the limits of his supplies. Despite his flight, Galdan Khan could not escape the Qing. Kangxi's three-pronged invasion was precisely to take into account for the potential Zunghar retreat. Thus while Kangxi had to begin his march back to Qing territory, Galdan's army was now intercepted by the western army led by the Manchu general Fiyanggu at the upper Terelj River. Again,

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48 Perdue, "Fate and Fortune", 374-375; Perdue, *China Marches West*, 155-57.

49 Perdue, "Fate and Fortune", 375.

Galdan demonstrated his poor battlefield strategy; to be fair he had only 5000 men, equipped with bows and 200 fowling guns. The Terelj river ran through a valley surrounded by hills, which the Qing seized. The Qing then bombarded Zunghar positions with their artillery. Galdan almost gained victory by attacking the Qing center, but flanking Qing troops flanked seized the Zunghar camp. The Qing then pressed their advantage, counter attacking the surprised Zunghars while supported by artillery. Galdan once again escaped, but only due his wife, Anu leading a counterattack, which permitted Galdan with a small following to escape the encirclement.<sup>50</sup> Anu, however, died in the process.

Although Galdan escaped, the defeat made the Zunghars, at least for the time being, a negligible threat and brought the Khalkha territories under Qing authority. Kangxi deployed two other expeditions, which penetrated Ningxia and the Ordos region. While they did not encounter Zunghars, they did impress other Mongols forces, further depriving Galdan of allies. Most importantly, Kangxi's actions also demonstrated the realization that the only way to defeat the nomads decisively was to have the logistical ability to campaign deep into the steppes. While Kangxi's army had to turn back, Fiyangu's smaller force had not exhausted its supplies. The expeditions that came afterwards followed a similar model of being small and more mobile, and made use of more Mongol troops brought into the Qing Banner system.<sup>51</sup> During this era, the Qing's basic battle strategy was to soften the opponent with cannon and musket fire, and then finish them with swords, spears, as well as archery.<sup>52</sup>

With the Khalkha territories lost to the Qing, the Zunghars still needed to expand in order to maintain influence and gain resources. Their links to the Dalai Lama turned their attention to Tibet during the reign of Tsewang Rabdan (r. 1697-1727). Despite initial good relations with the Kangxi Emperor, the capture of Lhasa in 1717 as well as Zunghar expansion over the oasis cities of East Turkestan worried the Qing. Indeed, Kangxi sent two armies against him.<sup>53</sup> While these successfully drove the Zunghars out, the permanent stationing of garrisons there proved untenable. Kangxi's successor withdrew them due to the cost. Instead, the Qing bolstered their presence in Gansu and Sichuan. Furthermore, they used proxies among the Khoshot Mongols, who had been dominant military power in nearby Qinghai since 1636, to counter Zunghar influence.

50 Perdue, "Fate and Fortune", 376; Perdue, *China Marches West*, 180-190.

51 Perdue, "Fate and Fortune", 376-77.

52 Bergholz, *Partition of the Steppe*, 301.

53 Perdue, "Fate and Fortune", 377.



The Khoshot, under Gushri Khan (1582-1655), also conquered Tibet by 1642. Indeed, it was Khoshot military muscle that established the Dalai Lama and the Gelupka sect as the dominant Buddhist movement in Tibet. Tsewang Rabdan's invasion ended the Khoshot protectorate over Tibet. Thus, the Qing saw an opportunity to use the Khoshots in Qinghai as their proxies. As with other Mongol groups, however, there also some pro-Zunghar (or at least anti-Qing) factions as the Yongzheng Emperor (r. 1723-1735) learned. Fears of a Zunghar-Khoshot union concerned the Qing and led to a Qing invasion and the acquisition of Qinghai and Tibet. Despite Yongzheng's fears, the Zunghars never came to the aid of the Khoshots.<sup>54</sup>

While the Qing enjoyed military victories in the steppes, the key to their strategy to defeating their primary opponents was diplomacy and improving their logistical abilities. Despite establishing a foothold in the Amur valley, the Russians conceded this territory after military defeats by the Qing. Nonetheless, the Russians had made a convincing demonstration of their martial prowess that the Qing agreed to open commercial relations with Russian merchants as well as establishing clear borders through the treaty of Nerchinsk (1689) and Kiakhta (1727).<sup>55</sup> This secured their common border and thus allowed the Qing to focus their attention on a more formidable opponent, the Zunghar Khanate. By securing peace with the Russians, the Qing also began to isolate the Zunghars. While Kangxi sought to defeat the Zunghars militarily, the logistical aspect prevented this. Still, he made use of his Mongol allies to compensate for the lack of a more robust system. Kangxi also cultivated relations with rivals to Galdan Khan within the Zunghars. Subsequent emperors, however, steadily improved the logistical infrastructure by establishing bases in Mongolia at Khobdo (modern Khovd) and Uliyasutai, as well as extending routes through Gansu into East Turkestan, which the Qing acquired through their wars with the Zunghars. In part, the Qing expansion into East Turkestan was part of their strategy of isolating the Zunghars. In acquiring East Turkestan, they cut the Zunghars off from Tibet and any Khoshot sympathizers.

Rather than simply set up garrisons that were barely self-sufficient, as did other China-based empires, the Qing harnessed the wealth of their empire through administrative reforms that allowed them to transport food from south China to these distant outposts. The policy of isolation effectively made the Zunghars in impotent enemy. With the Kazakhs increasingly coming under Russian protec-

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54 Perdue, "Fate and Fortune", 378-379.

55 Perdue, "Fate and Fortune", 374, 380-81.

tion, which they sought after Zunghar invasions in 1723, the Zunghars simply lacked room to expand and thus increase their strength.<sup>56</sup> Isolated from territorial expansion and not willing to be subjects of the Qing, the Zunghars turned to raiding. The Qing now sought to eliminate them all together. With the expansion of garrisons and their administrative apparatus, the Qing could send sizeable armies into the steppes and keep them in the field for several months, far beyond the typical 90-day campaign, which had been the standard for centuries. The Yongzheng Emperor in 1729 then decided to eliminate the Zunghars. As with Kangxi's campaign in 1696, the Qing forces marched from bases in East Turkestan and Mongolia. While the threat of forces convinced Tsewang Rabdan to sue for peace, as soon as the armies were recalled, the Zunghars resumed raiding.<sup>57</sup> Tsewang Rabdan's assassination rendered the peace efforts moot in any case. His son, Galdan Tsereng, however, tried not to antagonize the Qing. Nonetheless, in 1731, another Qing force based in Khobdo (modern Khovd, Mongolia) marched against the Zunghars. It marched into an ambush and was destroyed 210 km west of Khobdo. As Peter C. Perdue noted, "Once again, tried and true nomadic tactics had lured an army from China beyond its supply lines and destroyed it".<sup>58</sup>

This defeat did not lead to a Zunghar resurgence. Indeed, when a Zunghar force then invaded Khalkha Mongolia in 1732, the Khalkha Mongols defeated the Zunghars near the Erdeni Zuu monastery by the Orkhon River. With this defeat the Zunghar-Qing border was largely peaceful.

Peace, as always, is ephemeral. With the death of Galdan Tsereng in 1745, the Zunghars once again erupted in internecine violence. In 1754, stability was restored when the Zunghar leader, Amursana took the throne with the aid of the Qing Emperor Qianlong (r. 1735-1796). Two Qing armies—one from Hami and one from Uliyasutai—entered Zungharia and defeated Amursana's rival in 1755, leaving Amursana as the sole contender. Amursana, however, proved not to be a compliant puppet for Qianlong. As a result, the Qing armies once again invaded. Amursana eluded capture by fleeing into Russia. He returned, after the Qing once again departed. The respite was short as Qing armies once again

56 Unfortunately, a detailed discussion of the Kazakh-Zunghar wars must be omitted here. For more See Bergholz, *Partition of the Steppe*; Jin Noda, *The Kazakh Khanates Between Russian and Qing Empires: Central Eurasian International Relations During the Eighteenth and Nineteenth Century* (Leiden: Brill, 2016); Joo-Yup Lee, *Qazaqlıq, or Ambitious Brigandage, and the Formation of the Qazaqs* (Leiden: Brill, 2016).

57 Perdue, "Fate and Fortune", 383-4.

58 Perdue, "Fate and Fortune", 384.

returned in 1757, where they waged a genocidal campaign against the Zunghars, while also eliminating other potential threats in Eastern Turkistan.<sup>59</sup>

The continuing modernization of the Qing Army played a role, but building off the successes of his predecessors, the Qianlong emperor developed a strategy of building a surplus of supplies at his frontier garrisons for the explicit purpose of campaigning against the Zunghars and any other threats. It was only a question of when would the campaigns occur?<sup>60</sup> Of course, other elements played a part in the defeat of the Zunghars.<sup>61</sup> Zunghar politics opened the door. The most egregious factor in the Zunghar demise were the factious politics among the Zunghars, which prevented unity and made the death of every khan an opportunity for civil war. The second issue was the outbreak of small-pox.<sup>62</sup>

### *Impact on Society*

Changes in warfare impacted Inner Asian society, but it is difficult to ascertain whether the “military revolution” was the cause. As noted by Parker, a key component of the military revolution was the growth of the military leading to an expansion of state authority and its ability to control resources (manpower, war materials, and food).<sup>63</sup> Black, on the other hand, argues that the creation of the modern state is what allows the military revolution to happen, in other words, political changes led to military changes.<sup>64</sup> This was not unique to Europe. As noted by previously, these conditions existed in Inner Asia in the medieval period under the Mongol Empire (both the *Yeke Monggol Ulus* or United Empire as well as the successors such as the Yuan Empire and Chaghadai Ulus).<sup>65</sup> However, by the early modern period political instability led to the collapse of centralizing authority in Inner Asia. This did not mean that it completely disappeared, but efforts to centralize authority in the steppe was met with determined resistance (active and passive). Thus, in a sense Inner Asia underwent a new process of centralization of authority. The Ming and the Qing empires had the benefit of adopting many of the institutions of their predecessors to stabilize their

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59 Perdue, “Fate and Fortune”, 388.

60 Perdue, “Fate and Fortune”, 388.

61 Lorge, *The Asian Military Revolution*, 167.

62 Perdue, *China Marches West*, 91-92.

63 See Parker, *The Military Revolution*, passim. For an abbreviated account see Black, *A Military Revolution*, 4-6.

64 Black, *A Military Revolution*, 67.

65 See May, *The Mongol Art of War*.

states before creating new or improving existing institutions. Meanwhile in the steppe, the Mongols' (of all types) administrative structures deteriorated due to the continual erosion of unity and resistance to unified authority. Indeed, during the Ming Empire, the Mongols frequently united for periods under strong rulers before internecine war routinely erupted after their death. This chaos sometimes led to a lull of attacks (or at least in scale) on the Ming frontier, which then resumed after a sufficiently strong khan emerged.<sup>66</sup>

The fragile unity of the Mongols impacted society in other ways. While a strong ruler might establish dominance over the steppe, it did not mean that it was unified. Losers in the power struggle who did not submit or die, typically fled to hopefully greener pastures. During Dayan Khan's (1472-1517; r. 1479-1517) reign, he defeated his chief rivals Iburai Taishi and Mandulai in 1510. While Mandulai died, Iburai Taishi fled to Köke Nuur (Qinghai).<sup>67</sup> This conflict also reflected the Mongols relations with the Ming—raids ceased during the rebellion of Mandulai and Iburai Taishi and resumed in 1513. Furthermore, the defeat of a strong Mongol confederation, did not guarantee peace. Instead, it splintered into smaller powers. While these might be less threatening militarily, it did not mean peace. Often the Ming then refused to deal with them, unless they submitted to Ming authority. Naturally, if the terms offered did not satisfy a Mongol faction, raiding resumed. Thus, instead of a single khan who could rein in his subordinates, the Ming now had numerous smaller, but still dangerous threats. For the Mongols, this also meant instability and inter-tribal fighting as well.

Other societal changes occurred as well. Nurhaci's efforts to persuade the Mongols to build fortresses, as discussed above (and essentially transition to a more sedentary lifestyle), are a clear effort to better incorporate his Mongol allies into the Manchu military system.

As the Qing expanded into Inner Asia and the Russians penetrated Siberia and then slowly pushed south into the steppes, the Zunghar confederacy found itself between two growing powers. While the Zunghars were a concern for both powers, they were not an existential threat. Nonetheless, their power was great enough to hamper Russian expansion and their existence threaten the Qing's control of Mongolia and Tibet (both acquired in reaction to the growth of the Zunghars). Although the Russians and Qing had turbulent early relations, the lure of commercial relations tempered Russian hostility toward them. Further-

66 Pokotilov, *History of Eastern Mongols*, 101-103.

67 Pokotilov, *History of Eastern Mongols*, 101-103.

more, in order to secure favorable and continued trade, the Russians had to forsake any alliance with the Zunghars. Thus, while not hostile, the Zunghars could secure little assistance in weapons or food in large quantities, from the Russian empire.<sup>68</sup> Thus while the Zunghars did develop a more complex bureaucracy, they lacked the skilled expertise needed to develop their industry sufficiently to compete with the Qing. It was not for lack of trying. The Zunghars in 1733 attempted to acquire artisans from Russia who could either teach firearms manufacturing or be permitted to send individuals for such training. Russia denied the request so as not to provoke the Qing.<sup>69</sup> This, however, did not completely stop the Zunghars. Through the years, they also acquired new technical expertise through prisoners. These included a few Swedes captured in 1716, prisoners from the Battle of Poltava (1711) between Russia and Sweden. Peter the Great sent his prisoners of War to Siberia, where the Zunghars acquired them through raids. One of these Swedish prisoners was Lieutenant J. G. Renat who eventually supervised Zunghar artillery production. From his own statements, while the Zunghars had arms production, they simply could not produce large quantities. During his 17-year period among the Zunghars, "Supervising local corvée laborers, he produced at least fifteen cannon and twenty mortars during his stay".<sup>70</sup>

### *Conclusion*

The introduction of firearms did not immediately change Inner Asian warfare, regardless of how one defined it (steppe warfare, defensive operations against raids, etc), but by the eighteenth century, it was clear to all participants that the composite bow's superiority diminished. To be certain, European forces still encountered bow-wielding Mongol and Manchu soldiers wielding composite bows on the battlefield during the Opium wars of the mid-eighteenth century.<sup>71</sup> In the proper hands, they could still be used with deadly effect, but as cannon and firearms improved, particularly with rifling, range, and accuracy, the bow could simply not compete. Furthermore, and why the arquebus and muskets replaced bows and even crossbows in Europe, they were easier train men to use effectively, thus allowing states to put more men on the battlefield.<sup>72</sup>

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68 Peter A. Lorge, *The Asian Military Revolution From Gunpowder to the Bomb* (Cambridge: Cambridge University Press, 2008), 167.

69 Bergholz, *The Partition of the Steppe*, 345.

70 Perdue, *China Marches West*, 306-307.

71 Perdue, *China Marches West*, 307.

72 Ostrowski, "The Replacement of the Composite Reflex Bow", 516-517.



The eighteenth century also marked the end of steppe empires with the defeat and genocide of the Zunghars in 1757 by the Qing Empire. This event can arguably be viewed as the culmination of the military revolution. While fire-arm-wielding infantry using volleys and fire by rank were not crucial to the victory, they still played a role in expanding Qing control into Inner Asia and serving as garrisons in both Eastern Turkestan, Tibet, southern Mongolia, and Mongolia. Combined with improved cannon, these garrisons housed in fortifications simply outgunned the Zunghars and could effectively defend themselves against Zunghar attacks. Furthermore, the Qing's administrative reforms developed the bureaucratic ability to handle the logistics of supplying and operating these outposts, a struggle that the Ming and previous China-based empires failed to overcome. This achievement of being able to move food and manpower across the Qing Empire to its remote frontiers and overcoming the inherent geographical challenges permitted the Qing to place armies in the field for extended periods (years instead of a few months). Yet, the development of enhanced and more centralized bureaucratic and administrative institutions connected with military development as marked discussed by both Parker and Black as component of the military revolution, was very much part change in early modern Inner Asian Warfare. And indeed, all of the players in Inner Asia during seventeenth and early eighteenth century "aimed to create powerful armies, with modern weaponry, supported by enhanced bureaucratic apparatus and new means of extraction of resources from their agrarian base... Each in his own way enunciated doctrines of absolutist control, and each used warfare as a means of consolidating central rule".<sup>73</sup>

Yet, the military revolution was not necessarily the most important aspect of developments in Inner Asian Warfare. The most successful participant's achievements came not because of clear military superiority, but rather through diplomacy. To be sure, the military and administrative improvements discussed above played a key role, but without diplomacy, these improvements may not have been as significant. Through diplomatic efforts, the Qing were able to isolate the Zunghars. While the Qing demonstrated to the Russians that militarily they were a significant power, the economic might of the Qing was even more important in convincing the Russian Empire to be neutral in their struggle with the Zunghars. In short, the Qing had more to offer the Russians than the Zunghars. Russian neutrality limited Zunghar access to firearms, technical support, as well as other items. The Russians also had their own concerns with the Zu-

73 Perdue, "Fate and Fortune", 372.

nghars as their presence also hampered any expansion south from Siberia. Furthermore, it also prevented potential military alliances that could be leveraged against Qing expansion. Less noted is the long and positive relationship that the Qing emperors developed with the eastern Mongols. This relationship began early with the rise of the Qing, making the Mongols valuable allies against the Ming as well as against the Chaqar Mongols in Southern Mongolia. The alliances with many eastern Mongols, often through marriage, thus bereft both opponents of the Manchus of potential troops, secured valuable resources in horses, as well as opening new fronts. Indeed, it is arguable that the Qing could not have toppled the Ming without defeating Ligdan Khan in 1636 and gaining the Mongols of southern Mongolia and, of course, their horses. Although many Mongols chose the Manchus over Ligdan Khan prior to any conflict, Ligdan Khan's heavy-handed treatment of other Mongol princes aided Qing dominance, as he drove other Mongol leaders to embrace alliances with the Manchus. Indeed, these Mongol-Manchu alliances proved to be "crucial to the growth of the Manchu state".<sup>74</sup> As Nicola Di Cosmo indicates, both Hong Taiji and Ligdan Khan were simultaneously engaged in forming their states, which included controlling both human and economic resources.<sup>75</sup> Hong Taiji proved more adept, which gave the Manchus a decided advantage. Similarly, through Galdan Khan's clumsy and destructive efforts to restore unity among the Mongols in the northern Mongolia (roughly modern Mongolia), the Khalkha Mongols sought aid from the Qing, submitting to Qing protection under the Treaty of Dolon Nor in 1691.<sup>76</sup> It is unlikely that the Qing could have defeated the Zunghars in the seventeenth century or create the conditions for their success in the eighteenth. While the Ming had Mongols allies and vassals, they rarely successfully harnessed this relationship to ensure the success of military expeditions into the steppes. Khalkha horses, scouts, and manpower augmented the Qing forces that marched against Galdan, leading to his defeat at Jao Modo in 1696. Khalkha voluntary submission allowed the Qing to establish bases and supply points, leading to the crucial establishment of garrisons in Khobdo and Uliyasutai in western Mongolia, thus preventing Zunghar incursions into Khalkha territory as well as providing launching points that led to the destruction of the Zunghars. Similarly, the Qing successfully took advantage of divisions among the Mongols of Kōke Nuur, thus allowing the Qing to make in-roads into Qinghai and

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74 Nicola Di Cosmo, "Military Aspects of the Manchu Wars against the Čaqars", in Nicola Di Cosmo, ed., *Warfare in Inner Asian History (500-1800)* (Leiden: Brill, 2002), 337.

75 Di Cosmo, "Military Aspects of the Manchu Wars", 337-338.

76 Purdue, "Fate and Fortune", 375.

Tibet. Furthermore, by finding amenable Mongol and Tibetan allies, the Qing gained the security to then build the garrison and logistical network that permitted the Qing to penetrate beyond the Hexi Corridor into Eastern Turkestan and launch attacks upon the Zunghars in the eighteenth century.

The greatest failing of the nomadic states of Inner Asia was their inability to unify against sedentary threats.<sup>77</sup> Thus the sedentary states acquired nomadic troops, which then helped counter the mobility of the nomads. The old axiom was to fight nomads with nomads. Indeed, it was the most effective method as otherwise, extensive supply lines were necessary. What separated the Qing from other states was that not only they developed a strategy of cultivated nomadic allies, but they also developed an extensive logistical network for the purpose of subduing the steppes. The Russians also attempted this, but in a much more haphazard way, at least in the eastern steppes. There were good reasons for this as they lacked both manpower and the resources east of the Yaik (Ural) River at least until the nineteenth century.

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<sup>77</sup> Bergholz, *Partition of the Steppe*, 408-409.

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## Revolution or Evolution? The Late Imperial Chinese Military, ca. 1400-1800

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Perhaps the most remarkable thing about Michael Roberts' Military Revolution thesis of 1955 is the tenacity and staying power of the core argument and its broader implications (Sandberg 2016, 5-7; Sharman 2019, 10-12). The original concept and associated debate have spiraled into a myriad of other fields and geographical contexts becoming effectively meaningless as an explanatory concept while still worthwhile in encouraging historical investigation along new parameters (Rogers 1995; Andrade 2016; Fissel 2022). Such explorations were initially connected to expanding, proving, or disproving various aspects of Roberts' thesis, including discussions about the expansion of armies and the associated social and political implications, technological innovations such as the artillery fortress and new ship designs, and the ways various polities adapted gunpowder to warfare (Hanson 1989 and 2001; Tilly 1992; Parker 1996; Chase 2003). These studies, in turn, gave way to examinations of early modern warfare in other places, particularly Asia, where the same technologies existed and where many of the so-called "revolutionary" dimensions of early modern European society had long existed (Sun 2003; Lorge 2008; Swope 2005, 2009, 2014, and 2015a; Andrade 2011 and 2016). Likewise, scholars began examining early modern warfare in conjunction with the expanding field of War and Society, formerly called The New Military History," considering the technical changes alongside cultural elements to produce more sophisticated (in some cases) synthetic works that advance our overall understanding of early modern military history while also realizing the limitations of Roberts' conceptualization for application to global contexts (Black 2011; Sandberg 2016; Sharman 2019). As Brain Sandberg observes, "The Military Revolution concept remains useful, but it best explains technical and organizational developments in European military systems....However, the Military Revolution cannot effectively explain other dynamics of war and conflict that originated in non-European contexts or that

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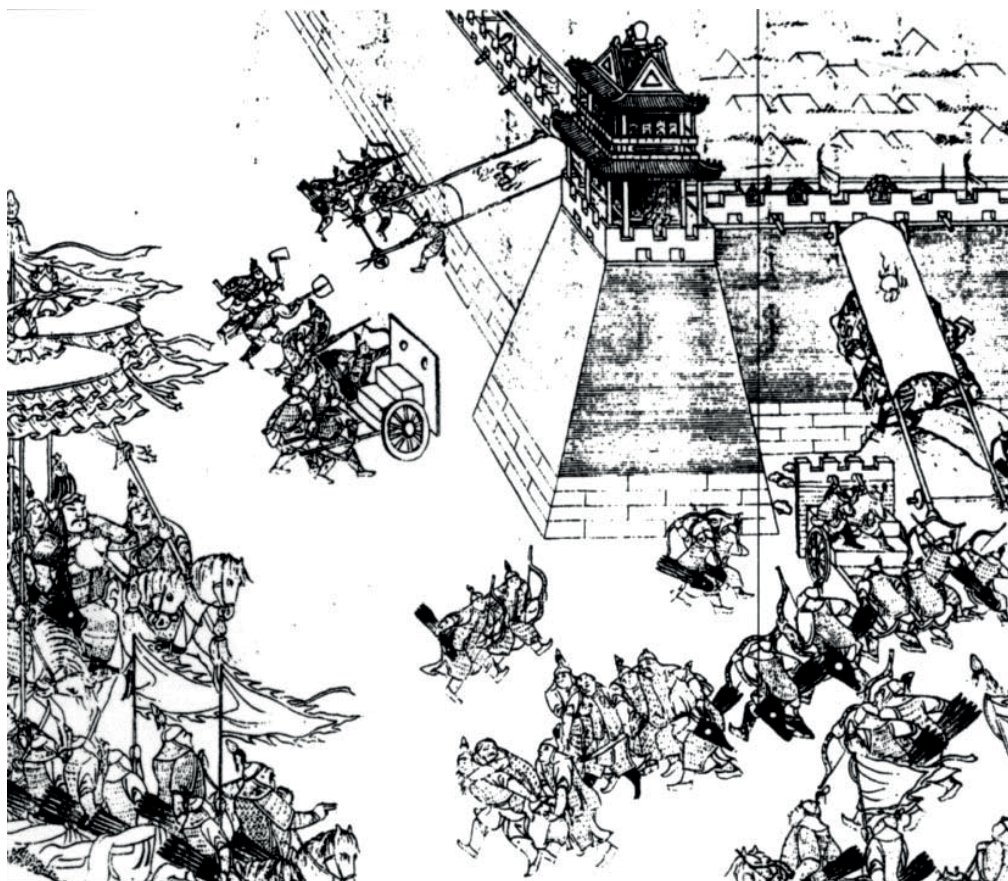
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developed along alternative global trajectories” (Sandberg 2016, 7).

This last point is quite instructive as it highlights the underlying premise of the present collection. A major weakness of the Military Revolution thesis, like many such articulations, is that it fixes “a single, deterministic path of military-institutional development as constituting the historical norm” (Sharman 2019, 3). And much depends upon one’s starting and ending points. With respect to the case of China, the original thesis was generated at the dawn of the Cold War. Revolutionary China was still coming into being, having emerged from more than a century of invasion, exploitation and chaos, marked in part by military weakness and inefficiency in the minds of most Westerners, though that interpretation has been called into question by recent scholarship (Swope 2005b and 2024). Indeed, the Chinese themselves were (and still do, for political reasons) wont to claim that traditional Chinese culture since the Qin (221-206 BC) was “a-military” (Lei and Lin 1989). In this period, as the age of Imperialism was coming to an end and the era of de-colonization was accelerating, it was easy, or perhaps more accurately, comforting, to argue that the global order was rooted in characteristics derived from the European experience. Even through the 1980s, the paucity of Western language scholarship on Chinese military institutions, itself in part a product of the leftism of the generation of China scholars entering the field in the Vietnam War era (Cohen, 2010), allowed scholars to continue to blissfully ignore the military achievements of China, which should be self-evident simply from considering the geographic scope of the empire and the modern territory of the People’s Republic.

As serious scholarship on the pre-twentieth century Chinese military began to be published in the late 1990s and early 2000s by a newer generation of China scholars, it became far less defensible to assume positions defending the primacy of “Western” military models though a few grognards still tried (Hanson 2001). Indeed, I recall a conversation with graduate students I had in these years when one tried to argue that China’s empire was “not really a true empire” because it was land-based. Only the Europeans had “real overseas empires.” I responded by first invoking the global history of empires, then directing the student towards a current map showing that the largest countries in the world today were in fact all descended from landed empires, including the United States and Canada, empires in practice, if not name. Nonetheless, despite the many advances in scholarship, a Eurocentric bias still exists and it distorts “understandings of the relationship between technological, military and political change,” while also exaggerating European successes and obscuring the power of Asian empires (Sharman 2019, 33).



Battle of Ningyuan between the Ming and Latter Jin, 1626  
(Source: Wikimedia Commons)

Therefore, I find it difficult to continue employing an idea that has “serious conceptual, methodological, and historiographical deficiencies and baggage” (Black 2011, 188). Again, echoing the sentiments of Professor Black, in the present essay I take the approach that it is better to think in terms of military adaptation or evolution than in terms of revolution, punctuated or otherwise (Black 2011, 5). The present essay will offer an overview of the evolution of the military and military institutions in late imperial China, covering most of the Ming (1368-1644) and Qing (1644-1911) dynasties. It is now well-established that the Ming was the world’s first gunpowder empire, though that fact and its implications for regional and global military history have not yet made it into much of the generalist literature or college-level textbooks (Andrade 2016, 55-

72). In fact, rising from the ashes of the Mongol Yuan Empire (1279-1368) and building upon the technological prowess of the preceding Song (960-1279), it should not be that surprising that the Ming emerged as a military superpower in the fifteenth century, though many modern commentators still ignore this or dismiss the massive expeditions of the Ming fleets under Zheng He, which in fact were a form of power projection described as “proto-colonialism” by one scholar (Wade 2005; Dreyer 2007) as mere “explorations,” while then comparing the Ming unfavorably to the Spanish and Portuguese.

The present essay will endeavor to redress this lacuna by offering an overview of the Ming-Qing militaries at the macro levels, drawing attention to key features and adaptations connected to social, political, and military developments. The Ming period will receive more attention for several reasons. First, it marked the creation of the early modern military apparatus based on gunpowder weapons that allowed for the final and permanent expansion of the empire to encompass, more or less, the modern territory of the People’s Republic. Most of the modern provincial names and boundaries in “China proper” were delineated in the Ming, though modified later. The Qing then completed the not inevitable expansion into Tibet and Central Asia, an expansion that was in fact most vociferously championed by Han Chinese officials, most notably in the late Qing, when rebellion threatened to detach these strategically important lands from imperial control (Perdue 2005; Dai 2010; Swope 2024). And in fact, the Ming was in many ways “more modern” than the early Qing and more open to technological innovations and adaptations by virtue of strategic and military necessity (Chase 2003; Andrade 2016). The real genius of the Qing lay in melding the steppe traditions of Inner Asia as embodied by their hereditary Banner System with the bureaucratic and administrative skills of the Han Chinese, creating a potent military combination that resolved the age-old steppe problem for the Chinese empire (Theobald 2013). The Qing also championed a new military ethos, creating a distinctive military culture that valorized war and martial achievements to a degree perhaps unrealized before (Waley-Cohen 2006), though more recent scholarship on the Ming suggests that the Qing were reviving, rather than inventing, such a tradition (Robinson 2013).

In fact, somewhat like other eras of Chinese military history, it is only in the past quarter century that the Ming-Qing militaries have received their due in the secondary literature, a welcome transformation that is still lagging in many comparative studies and survey texts (DiCosmo 2009). But a number of scholars have redirected our attention towards the prominence of military culture and institutions in late imperial China and attempted to do so within the broader context

of Eurasian military history (Robinson 2017 and 2020; Szonyi 2019). The Ming, in particular, has benefited greatly from this more nuanced treatment. These studies seem inspired by the so-called New Qing history of the late 1990s-2000s that highlighted the military dimensions of China's last dynasty and identified the presence of a distinctively Qing martial culture that not only presided over the unprecedented territorial expansion of the empire, but also pioneered new methods of documentation and commemoration (Swope 2019; Waley-Cohen 2004; Cams 2016; Li 2016).

But in many general sources the Ming remains synonymous with despotic emperors and eunuch abuses in government. If the military is discussed at all it is 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, though recent work by the late John Dardess (Dardess 2020) has helped to fill this void. The early Ming is associated with the implementation of the hereditary military system modeled after the Yuan, 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." (Gernet 1982, 431) Such assessments obfuscate the fact that the Ming military was a dynamic and vital branch of the government throughout its existence. Far from simply allowing its military to deteriorate over time, Ming officials were always trying to streamline and improve the effectiveness of the military, perfecting fitting the concept of adaptation highlighted by Black and Andrade as noted above. While they were not always successful in these endeavors, they should still be commended for their efforts. Moreover, military affairs were a constant subject of debate at court and many officials' careers were made or broken according to their stances on military issues.

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 (Yu 1987, II). Technological advances in weaponry necessitated 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 which 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. And it's worth noting that most of these practices were emulated by the Qing, augmented by the introduction of their own hereditary Banner System of military organization (Elliott 2001).

The Ming, like all Chinese dynasties, was founded through military power. Zhu Yuanzhang, who reigned as Emperor Hongwu (r. 1368-1398), which translates as "Overflowing Martial Brilliance," was the most gifted of a number of dynastic contenders for power at the end of the Yuan dynasty. 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 (Zhang 1994, 2175). In accordance with Mongol practices, Zhu's early commanders wielded civil and military authority and in 1370 thirty-four of his principal generals were given hereditary titles of nobility. This was not an empty gesture. As will be seen below, throughout the Ming military nobles played important roles and were often given special assignments. Still, as Yu Zhijia asks, it is puzzling why early Ming military officials did not codify their position and maintain their predominance over civil officials like the Mongols did, though more recently David Robinson has highlighted the extensive links between the Mongols and the Ming in terms of military culture (Yu 1987, IV; Robinson 2009 and 2013).

As is well known, 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 (Zhang 1994, 2193). The earliest recruits were from the personal army Zhu Yuanzhang had raised while still under the command of the bandit chief Guo Zixing (d. 1355), whom Zhu succeeded. 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,





Qing Ambush of the Taiping Rebels at Wangjiakou, 1854  
(Source: Wikimedia Commons)

and manner of recruitment remain problematic and are debated by scholars (Yu 1987, 4-5). 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 physical talents like shooting from horseback, although there was apparently a written component as well (Zhang 1994, 1708-09).

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 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 (Zhang 1994, 2261-62). 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 (Zhang 1994, 2263). 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 (Zhang 1994, 2258-60). 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. The famous Grand Secretary Zhang Juzheng (1525-82), for example, came from a military household. Still, other families flourished in military roles and many of the prominent generals in the late sixteenth century were from families with distinguished records of military service. Together these families constituted a network of military elites not unlike groups of civil officials with some of them enjoying the patronage of the throne and participating in the factional strife that characterized the Ming (Swope 2004 and 2014; Dardess 2020).

The actual establishment of the guard-battalion (*wei-suo*) system itself is also a matter needing further study. When the Ming was founded, all those in the army were made a permanent part of it and as the empire was pacified many more men were incorporated into the army, a large number directly from their original Mongol units. The last, and most controversial, group of people incorporated was comprised of former brigands and men impressed into service to atone for crimes. Even worse, some families with an abundance of able bodied young men were forced to offer one man for service (Yu, 1987, 8-10). As could be expected, such men did not form the backbone of the army, nor could they be relied upon to remain loyal servitors for even one generation, let alone perpetuity. But the newly emergent Ming state regarded the military as paramount in its early days and first Ming emperors were supremely confident in their ability to bend the people to their will. The importance of the military in the eyes of the Ming government is illustrated by the fact that military and supplementa-

ry military households constituted an amazing 80-92% of all registered households in some districts during the Yongle reign (Yu 1987, 19). As a result of this prominence military households would be key beconomic and social roles in local society throughout the Ming period despite the primacy normally accorded to civilian officials in the primary and secondary literature (Szonyi 2019; Lim 2019). 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. In general, hereditary soldiers were known as *jun* of various sorts, and all others were typically called *bing*.

Numerically the Ming military was massive in terms of the number of men under arms at any given time, easily the largest in the early modern world, 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 added twelve more guards, meaning an additional 67,200 troops (Zhang 1994, 2196). 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 (Xu 1983, 133). This number is not unchallenged, though. The Chinese scholar Wang Yuquan notes that according to the *Taizu shilu*, the total strength of the Ming military in 1392 was 1,198, 442 plus 16,489 military officials (Wang Yuquan 1965, 50). 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). Thus he also agrees with the Yongle estimate of around 2 million troops. 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 (Twitchett and Mote 1998, 437). 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 (Zhang 1994, 2204).

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. The guards and 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 (He and Wang 1997, 239). 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 (Zhang 1994, 2209; He and Wang 1997, 240). 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 (Zhang 1994, 2229).

Originally the combined military forces of the empire were under the control of the Chief Military Commission (*du du fu*). In 1380 this position was broken up into Five Chief Military Commissions as part of Hongwu's fragmentation of power in the wake of a treason case. Each commission had a left and right commissioner-in-chief (rank 1a), a vice commissioner-in-chief (rank 1b), and an assistant commissioner-in-chief (rank 2a), ensuring that one official could never control a disproportionate share of the empire's military power. There were also a number of supporting officials assigned to the commissions. One regional commander was assigned to each province and one was placed in charge of each of the Nine Defense Commands along the frontier, which shall be discussed further below. Originally these commanders were all part of the hereditary military nobility created by Hongwu. Under Yongle the lower echelons of the military command system were further expanded and diversified until there were some 407 guards, along with various frontier chieftainships. Yongle wanted the military system to be able to operate flexibly and independently. He also, understandably, moved to deprive the Ming imperial princes of their power and moved the capital to Beijing, both because his own base of power was there and because he wanted to be able to launch punitive campaigns against the Mongols (He and Wang 1997, 228-38).

Another fifteenth century development was the eclipse of the power of military officials by civilian officers in the Ministry of War (Filipiak 2012). 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 (Wang 1991, 85). 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 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. The list of responsibilities for these bureaus shows that while civil officials might excel in some regards, they would be in over their heads in other areas. Indeed, the logistical skills of civil bureaucrats were integral to both Ming and Qing military campaigns, most notably the joint Ming-Korean victory over the Japanese in the 1590s (Swope 2009) and the Qing campaigns in Central Asia (Perdue 2005).

While this essay thus far has stressed many of the positive aspects of the Ming military system, not to mention the flexibility of those tasked with administering it, there were problems as well, many of which were tied to its hereditary nature. First and foremost was the fact that many people simply had no desire to be soldiers and/or travel far from their families and ancestral homes for military campaigns. So from its inception, desertion was a huge problem (Swope 2001, 49-51; Xu 1983). Ming officials tried a variety of registration systems and other methods to replenish the ranks with decidedly mixed results. Their eventual solution was to transition to a more mercenary army, a transition made possible by the Ming's participation in global trade and monetization of the economy, processes that accelerated from the mid-sixteenth century. Significantly, the Qing were also bedeviled by the problem of desertion, particularly in its final century, which falls beyond the scope of the present essay though I address it elsewhere (Swope 2024).

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 (Wang Yuquan 1965, 38). 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. 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. Modified versions of this arrangement would continue under the Qing.

In addition to the fact that arable land was not often congruent with defense installations, there were other problems with the military farm system. First of all, soldiers still had to pay taxes on cultivated land. Their tax burdens exceeded normal tax payments by five to ten times (Huang 1970, 42). This made land cultivation extremely unattractive from the point of view of the soldiers, yet they still had to help feed themselves lest they risk starving to death. One can see where many men may have been tempted to desert and live more comfortable, albeit outlaw, lives as ordinary farmers or merchants.

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 (Huang 1970, 40-41). 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 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 (Wang Yuquan 1965, 329-42). Thus the total amount of land under military cultivation generally diminished over the course of the



Statue of General Zuo Zongtang (1812-85) at Xiangyin, Hunan  
(Source: Wikimedia Commons)

Ming, though figures vary widely. It should be added that 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.

Though the Qing did not employ the military farm system as extensively as the Ming, it was used to supplement food for armies on the march and was employed right up until the end of the dynasty as a means of opening up newly

settled lands that required a defense garrison such as after the suppression of the great Muslim revolts of the late nineteenth century (Lavelle 2020; Fields 1978). In general, in the primary sources one frequently encounters the solution of military agricultural colonies as a cost-effective expedient or band-aid. Its proponents tend to invoke precedent with relatively shaky supporting details then later provide questionable evidence proving its success. But the idea retained currency throughout the imperial era so it must have demonstrated some degree of effectiveness.

Rising costs due to both inflation and global factors affected both the Ming and Qing as well, necessitating greater allocations of tax revenues to military affairs as the dynasties wore on, though they never reached the massive spending of their European counterparts (Parker 1996) and even tapped new funding resources to keep their militaries operating (Miller 2008; Halsey 2015). Along these lines it is noteworthy that during both the Ming and the Qing the ultimate solution to ever growing military problems was to create hybrid forces that combined professional mercenary units with hereditary armies and a mish-mash of semi-official local militia and other auxiliaries. While some might point to such measures as a sign of desperation, they also demonstrate a significant degree of creativity and flexibility in adapting to meet the changing military needs of the empire. And, in the broader assessment, in both cases the new troops proved effective, at least for several decades, in meeting these new challenges before broader global trends and forces dovetailed with domestic developments to ultimately bring the demise of these states.

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 (Swope 2001). Private mercenary forces were integral to Qi Jiguang's success in finally stopping the Japanese pirate (*wokou*) raids which plagued China's southeast coast in the mid-sixteenth century (Sim 2017; Fan and Tong 2004). By the end of the Ming, close to half the troops in Liaodong, perhaps 100,000 soldiers, were mercenaries (Wang Li, 1991, 91). This transition to a mercenary army paralleled developments in Western Europe and was made possible by the monetization of the Ming economy above. Many contemporaries criticized this development, arguing that mercenary troops were expensive, never trained, and ignored military regulations. Moreover, much of the money allocated for hiring

mercenaries went instead into the pockets of businessmen and unscrupulous generals, or was diverted to other projects, but their overall efficacy under the right commanders was such that the practice endured

Ming military forces were not distributed equally throughout the empire. They were concentrated in areas of political and strategic significance and these areas changed over time to some degree. Naturally, the most important posting was the capital guards' divisions and supplying and equipping these troops was vital. In the early Ming, when the capital was in Nanjing, there was no concern over a lack of military supplies because of the proximity of the capital to the empire's resources. Hongwu's officials favored a southern capital, out of reach of the Mongols, who were still a significant military threat (Luo 1983, 1). But there was concern on the part of the emperor that the northern frontier was out of range of Ming influence and in order to guard against Mongol invasion, Hongwu enfeoffed his sons as princes with significant military authority in strategic border regions. Zhu Di, who later usurped the throne and reigned as Emperor Yongle (r. 1403-24), was the most powerful of these princes and was based at Beiping, later renamed Beijing. When he ascended the throne he no longer wished to rely on his fellow princes (for obvious reasons), but because the Mongol threat in the north was not yet extinguished, he resolved to move the capital to his old fiefdom, which he renamed Beijing.

Yongle was perhaps the greatest of all the Ming emperors and a brilliant organizer and administrator (Tsai 2001). 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 (*shen ji 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. Unfortunately, this resulted in a decline in the caliber of garrison troops all over the empire, not in standardization as had been hoped. This division was also used as a strike force and derived its name from the forces Yongle mobilized in his campaigns against the Mongols. The Division of the Three Thousand specialized in cavalry training, scouting, and patrolling, and also included the signal corps of the army. The division was formed around a corps of three thousand cavalymen who had joined Yongle during the civil war with his nephew. It is believed that this division was comprised primarily of surrendered aliens, mostly Mongols. Though the name remained the same the actual number of troops in this training division exceeded three thousand after its inception. 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 (Andrade 2017). 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 (Swope 2015b; 2016). Thus it is said that the Ming artillery training division was based around Vietnamese firearm specialists who instructed soldiers supervised by eunuchs.

Yongle also created an imperial escort from the crack troops of his five armies and embroidered uniform guards, who later became institutionalized as the bodyguards of the monarch. 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 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. 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 (Swope 2014).

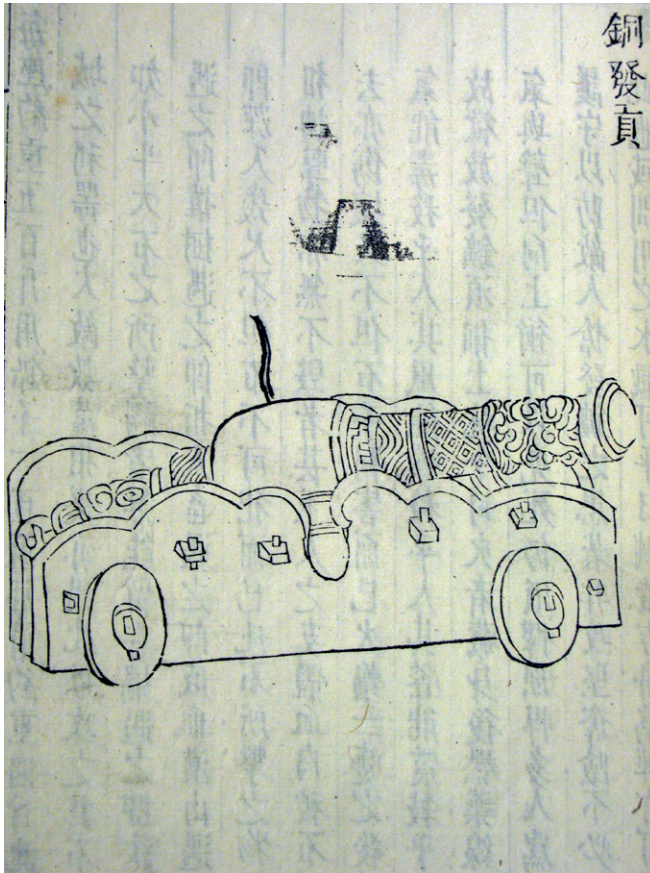
Rather than dwelling upon the decline of the capital garrisons, it is important to look at how they functioned within the context of the Ming and its strategic needs. The garrisons remained the focus of much government attention despite their relative decline over time, and they never ceased to have 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. 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 noted above, throughout the Ming there were initiatives by reform minded officials trying to reinvigorate the garrisons with varying degrees of success.





Ming and Koreans Battle the Japanese in the Siege of Ulsan, 1597-98  
(Source: Wikimedia Commons)





Ming Cannon from *Chouhai tubian*, by Zheng Ruozeng, 1562 /(Photo by K.M. Swope)

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. The Ming understood the value of superior firepower and tried to make use of this advantage whenever possible. In the early Ming it is estimated that around 10% of all troops had firearms, though the ideal ratio was 30%. Over time the number of firearms in Ming society seems to have increased as in addition to domestic production,

which was theoretically controlled by the central government, they were getting guns from foreign sources, which included the Ottomans in the early Ming and European sources later on. They were also the main disseminators of firearms throughout East and Southeast Asia in the fifteenth century (Sun 2003, and 2018).

For their part, the Qing do not appear to have been overly active in disseminating gunpowder technology. Indeed, in the war against the Ming they were initially literally outgunned and the difficulties they encountered conquering the Ming forces in southwest China in particular were partly due to the superiority of the latter in firearms (Swope 2018). Moreover, these difficulties also serve as

a testament to the acute militarization of late Ming society. Once the Qing were finally victorious, they were immediately faced by rebellion from several of the former Ming generals who had aided their conquest and had taken advantage of the military infrastructure created in China's southwest by Ming loyalist groups, which including arms manufacturing centers. Somewhat ironically, the defeat of these elements served as the springboard for the subsequent Qing conquest of Tibet and Central Asia, a long process that built upon the innovations of the Ming and that facilitated the much greater integration of Han Chinese officials into the Qing military planning and decision-making processes

at the highest levels. These transformations would have profound resonations in the great wars of the nineteenth century when the Qing military was forced to re-invent itself and suprisingly turned to late Ming examples, notably those of the famous general Qi Jiguang (1528-88) to do so.

Within the context of this essay, focused as it is upon military adaptations, Qi Jiguang deserves special mention. For a long time he was regarded as one of the few positive figures in the entire Ming military establishment, a veritable anomaly in a history of failures and backward military ineptitude. Yet even some of his proponents characterized him as less than innovative (Huang 1981),



Helm of Female Ming Warrior Qin Liangyu, ca. 1625  
(Held at Three Gorges Museum, Chongqing, Sichuan,  
China; photo by K. M. Swope)

the Ming military equivalent of the dreaded “game manager” quarterback in American football, who does just enough to avoid defeat, but does not really carry the troops to victory. That characterization has undergone a bit of a transformation in recent years, with the publication of sophisticated biographies and edited collections grounded in the full range of primary sources (Fan 2003; Sim 2017) as well as the republication of contemporary biographies and Qi’s own works (Qi Zuoguo 2003; Qi Jiguang 2000). His continuing popularity in China is attested by the recent film “God of War,” which depicts one of Qi’s campaigns against the hated Japanese pirates (Chan 2017).

The pirate threat was eventually eradicated through the efforts of Qi Jiguang, who achieved success by picking and training his own mercenary troops (Qi Jiguang 2000; Huang 1981, 163-74). 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. 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 (Fan Zhongyi 1997, 41-42). 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. Fan Zhongyi regards all these tenets as examples of the influence of Confucianism on military thought, but I am inclined to believe they had more to do with Qi’s personal beliefs than a general trend in Ming military thinking (Fan Zhongyi, 1997).

Qi also enthusiastically embraced firearms, using them against the Japanese in the southeast, then adapting them for use in northwest China against the Mongols, creating a new formation that involved the use of battle carts, despite Kenneth Chase’s contention that states faced with mounted cavalry threats tended to eschew the use of firearms against them (Chase 2003). His musketeers were trained in countermarching and practiced volley fire, though previous Western scholars largely ignored these facts due to ignorance of Qi’s manuals, which still have not been fully translated into English and are sometimes vague because he glosses over elements that were already commonplace in Chinese drill (Andrade 2016, 172-86). Qi created precise procedures for loading and firing arquebuses, set to a song that would be easy for his peasant recruits to remember. He also

emphasized frequent drilling and inspections to ensure weapons were kept at peak efficiency. His methods were so well-regarded that they were imported to Korea during the East Asian War of 1592-98, where his son served. His books were translated into Korean, helping to facilitate a mini military revolution in Korea (Kang 2013). In fact, Korean captives were often impressed into service to aid the Manchus in manufacturing firearms and training in their use during the early stages of the Ming-Qing war in Manchuria.

The success of Qi's methods demonstrated the utility of standardized continuous training with one commander. Nevertheless, many officials still feared the threat of independent military power, preferring troops demonstrate loyalty only to the dynasty, not their commander. The efforts of Qi, along with those of other prominent military families such as the Ma in the northwest and the Li in the northeast did much to reverse the strategic balance of power along the frontiers over the last three decades of the sixteenth century. In the larger sense what this meant was that regional military officers were once again coming into positions of national power and influence. Prior to this, military officers were often granted considerable leeway in administering local affairs. But now, due to the pressing military needs of the state, these men had to be rotated into more important posts and in extreme cases, even sent into China's neighboring states to deal with military threats. This was one of Emperor Wanli's (1573-1620) contributions to the legacy of the Ming, one which had short term benefits, but also created long term problems by facilitating the growth of an increasingly factionalized and militarized society. Wanli's successors proved unable to forge effective ties with military commanders and could therefore not counter the power of civilian factions. This severely hampered the Ming's military capabilities and contributed greatly to its demise at the hands of internal and external foes (Swope 2014).

Therefore, it was somewhat ironic that scholars later attributed the final decline and fall of the succeeding Qing dynasty to a devolution of authority necessitated by the extreme measures used to crush the great Taiping (1851-66), Nian (1851-68), Panthay (1862-73), Dungan (1862-74), and Yakub Beg (1864-77) rebellions. Beset on all sides and with its traditional Banner and Green Standard forces having proven not up to the challenge, the Qing court authorized the creation of new armies that combined modern Western weaponry and drilling techniques with elements of traditional militia recruitment and organization. Significantly, the foremost proponents of these new armies, Zeng Guofan (1811-72), Zuo Zongtang (1812-85), and Li Hongzhang (1823-1901), were heavily influenced by Qi Jiguang's models. In particular they emphasized close ties between



the military commander and the troops and the latter became more closely associated with their respective leaders than with the central government. As was the case in the late Ming, these armies would be deployed around the empire to trouble spots, putting out fires on geographically distant and different frontiers, constantly adapting to new situations and conditions. Likewise, they would gain a reputation as elite forces and some in the government would come to distrust them and fear their commanders, though all maintained their loyalty throughout their tenures. It was only after the fact when lesser commanders under different circumstances pursued their private interests did the Ming and Qing both fall. But teleologically oriented historians have been wont to place the blame for twentieth-century Chinese warlordism at the feet of these patriotic reformers ever since.

Those debates aside, it seems that the thread of adaptation runs strong through the late imperial Chinese military. Both the Ming and Qing were, for significant periods of their existence, the strongest military powers on the planet. This was not accidental. Ming and Qing rulers and their officials, for all their factional predilections, also possessed profound grasp of what modern writers term “grand strategy” and repeatedly took steps to maintain the supremacy of the Chinese empire in Asia by “Manifesting Awe” (*wei*) via the varied employment of physical force and psychological warfare (Swope 2022 and 2020). They adapted tactics and logistics to solve a bewildering array of challenges posed by the vastly different geographic conditions under which they prosecuted wars. We have already mentioned the adaptation of battle carts to serve as defense platforms to battle the Mongols. The Ming constructed a sophisticated network of coastal lookouts and layered defenses to combat a potential Japanese invasion of the Chinese mainland in the 1590s. In the 1850s the Qing created a riverine navy to contest the Taiping rebels. This was deemed so successful that it led to the creation of China’s first modern shipyard at Fuzhou in 1866 under the direction of Zuo Zongtang. The fact that this shipyard was destroyed by the French (who ironically helped build it) in a surprise attack in 1884 has obscured the broader significance of the development itself, not to mention its origins. Therefore, I enjoin my fellow scholars to look beyond facile notions of “military revolution,” attractive as they may be, to discern the continual processes of adaptation that actually produce lasting change.



Map of the Qing Empire (commissioned by K. M. Swope)

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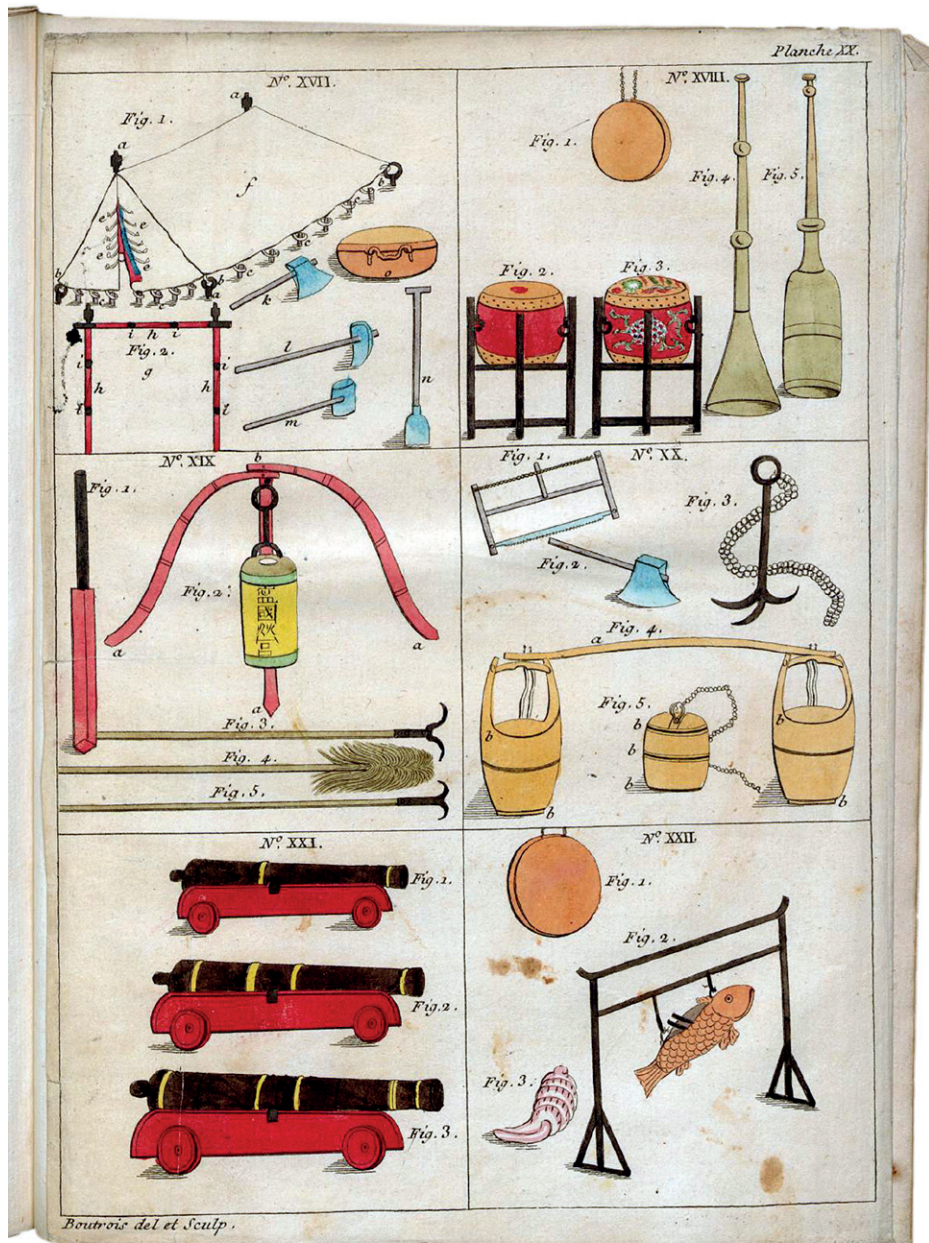
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## Change and Continuity in Warfare: Military Early Modernity in South Asia

By PRATYAY NATH

The Military Revolution debate is essentially an exercise in interpreting change and continuity in warfare during the sixteenth through the eighteenth centuries. As is well known, the debate initially developed in European history since the 1950s. However, an increasing number of historians working on other parts of the world have engaged with it especially since the 1990s. This has made the debate a global one. In the last ten years or so, there have been mounting voices for going beyond the parameters of this analytical framework in studying warfare of this period.<sup>1</sup> Instead of repeating that discussion, it suffices here to summarize my main arguments as follows. The registers of analysis in the Military Revolution framework as developed by Michael Roberts and Geoffrey Parker are squarely based on the European historical experience. In adopting these registers for the analysis of non-European parts of the world and then relating the findings to the Military Revolution debate produces exercises that are essentially Eurocentric. Additionally, keeping the historiographical attention focused on these specific registers masks other military developments among non-European powers and discourages comparisons between them.

For South Asia – the part of the world this article focuses on, the most important analysis through of lens of the Military Revolution hypothesis till now has come from Jos Gommans. In a series of articles in the 1990s, he adopted a long timeframe comprising most of the second millennium CE to provide incisive reflections on change and continuity in South Asian warfare, among other matters. One of these articles in specific engages directly with the Military Rev-

<sup>1</sup> See for example Jeremy Black, *War and the Cultural Turn* (Cambridge: Polity Press, 2011); Frank Jacob and Gilmar Visoni-Alonzo, *The Military Revolution in Early Modern Europe: A Revision* (New York: Palgrave Macmillan, 2016); Pratyay Nath, 'Looking beyond the Military Revolution: Variations in Early Modern Warfare and the Mughal Case', *The Journal of Military History* 86, no. 1 (2022): 9-31; Pratyay Nath, 'Was Mughal Warfare Early Modern?', in Meena Bhargava and Pratyay Nath (eds), *The Early Modern in South Asia: Querying Modernity, Periodization, and History* (Cambridge University Press, 2022), 224-246.

olution debate. Here Gommans argues that the coming of the Turkish invaders in South Asia in the eleventh and twelfth centuries comprised a horse-warrior revolution, putting the cavalry in a dominant military position in the region. According to him, the dissemination of gunpowder and firearms increasingly since the fifteenth century could not displace this equestrian dominance in South Asian warfare, which continued till the mid-eighteenth century. Hence, he calls this period only a 'false dawn of gunpowder' in the region. Finding no major break in military processes in the sixteenth and seventeenth centuries, he highlights long-standing military continuities in South Asia through the second millennium CE till the onset of what he calls a delayed 'gunpowder revolution' in the mid-eighteenth century.<sup>2</sup>

The problem with Gommans' approach is his adoption of the Eurocentric parameters of the Military Revolution framework in analysing change and continuity in South Asian warfare. He is right arguing that the changes that characterised the so-called Military Revolution in Europe did not occur in South Asia; however, this does not mean that there were no changes at all. As I argue in this article, South Asian warfare was in fact engulfed by profound shifts across various fields. However, these become visible only when we look beyond the parameters of the Military Revolution framework. In the past, I have drawn upon Jeremy Black to foreground the utility of the lens of variations as a means of writing new histories of warfare for this period instead of continuing to rely of the Military Revolution framework.<sup>3</sup> In the present article, I provide another approach for tracing change and continuity in military history of this period. This is the idea of military early modernity. Let me begin by outlining its contours.

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2 Jos 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. Since around the mid-eighteenth century, South Asian polities began to refashion their armies after contemporary European models and hire European military professionals to bring about major technological and tactical reforms. For a broad analysis of these changes, see Kaushik Roy, 'Military Synthesis in South Asia: Armies, Warfare and Indian Society, c. 1740-1849', *The Journal of Military History* 69, no. 3 (2005): 651-690; Kaushik Roy, *War, Culture and Society in Early Modern South Asia, 1740-1849* (London and New York: Routledge, 2011); Randolph G. S. Cooper, *The Anglo-Maratha Campaigns and the Contest for India* (New Delhi: Foundation Books Pvt. Ltd, 2005); Seema Alavi, *The Sepoys and the Company: Tradition and Transition in Northern India, 1770-1830* (Delhi: Oxford University Press, 1995); Jos Gommans, 'Indian Warfare and Afghan Innovation during the Eighteenth Century', *Studies in History* 11 no. 2 (1995), 261-280.

3 Nath, 'Looking beyond the Military Revolution'.

Over the last several decades, it has become mainstream to look at the sixteenth through eighteenth centuries as the early modern period for most of the world. This has gone hand in hand with a revision of the idea of modernity as something that originally emerged in Europe and then spread outwards to the rest of the world. Instead, since the 1990s, historians have been increasingly inclined to see modernity as a global condition that emerged around the sixteenth century in different parts of the world through the interaction of shared processes and specific tendencies. In this literature, the period has been associated with accelerating changes at the global level. These included the emergence of trans-oceanic routes, the first true global economy, many territorial and sea-borne empires, and new scribal cultures. Alongside this, large parts of the world saw steady increase of population, agricultural expansion, environmental exploration and exploitation, and dissemination and adoption of new technologies like print, firearms, and the compass. By the nineteenth century, these plural forms of modernity were jettisoned in different parts of the world by European modernity, which spread hand in hand with European colonial conquest, violence, and exploitation. As in the case of South Asia, this produced new forms of modernity – colonial modernity. In turn, this has been distinguished from even more contemporary forms of modernity – like postcolonial modernity – following the end of colonial subjection.<sup>4</sup>

This reconceptualization of the idea of modernity and more specifically the emergence of the notion of early modernity has produced new ways of conceptualising change and continuity across the world in the period immediately before the rise of West in the nineteenth century. Foregrounding the category of early modernity has been particularly important for non-European parts of the world to highlight their own agency and contribution in historical developments prior to the advent of colonial modernity. South Asia, for which a rich body of literature around this idea has emerged in a little more than the last two decades, presents a case in point.

The churning in various historiographical fields around the idea of this shared and global condition of early modernity stands in contrast to the dominant ways of conceptualizing historical change in the domain of warfare during this period.

<sup>4</sup> The body of scholarship is on the notion of early modernity is too vast to cite here. For a historiographical overview, see Meena Bhargava and Pratyay Nath, 'Introduction: History and the Politics of Periodization', in Bhargava and Nath (eds), *The Early Modern in South Asia: Querying Modernity, Periodization, and History* (Cambridge: Cambridge University Press, 2022), 1-39.



The enduring use of the Military Revolution framework here has kept things Eurocentric, with the military developments in non-European parts of the world being judged in terms of whether they displayed shifts similar to those in contemporary Europe. Most military historians refer to the sixteenth through the eighteenth centuries as early modern to express their temporal focus; few pause to reflect on what the condition of early modernity might have meant for warfare. The idea of a military early modernity thus gets entangled with the idea of the Military Revolution at best and remains entirely undefined at worst. I contend that as a condition that was shared through global patterns and responded to regional peculiarities at the same time, the idea of military early modernity can substitute the Military Revolution hypothesis as a more context-sensitive analytical framework. Its merit remains in the fact that it is not based on the historical experience of any particular part of the world; rather, as a framework for identifying continuity and change while being sensitive to the global and local contexts, it can help foster histories that are truly comparative and inclusive.

In this context, the present article etches the contours of early modernity in South Asian warfare. It focuses mainly on the sixteenth and seventeenth centuries, while outlining the transition from medieval forms of warfare that remained dominant until the fifteenth century. As the largest, richest, and strongest empire of the region, the Mughal Empire will remain central to this discussion. In many ways, the most important shifts in military matters in sixteenth- and seventeenth-century South Asia were embodied by this polity. However, I will also refer to other important groups – like the Rajputs, the Marathas, and the Nayakas – to reflect on similar changes afoot in their realms. My goal here is not to be exhaustive about the military developments of this period; rather, the aim is to highlight some of the defining shifts of the times as indications of an overall paradigmatic change in the practices of war-making. Adopting a war and society approach, I look at five major dimensions in the following sections – adaptation, organisation, mobilization, environment, and culture. I argue that in all these domains, there were important developments around the sixteenth century, marking an overall shift away from medieval patterns of war-making. For me, the new paradigm they ushered in comprised South Asia's version of military early modernity. This phase continued until the mid-eighteenth century, when another set of shifts accompanying the large-scale Europeanisation of South Asian armies jettisoned the early modern tendencies.



Fig. 1., Mughal miniature painting from the 1590s depicting Babur's Mughal army in action at the First Battle of Panipat (1526). It shows two types of artillery, and cavalry carrying both shock and projectile weapons, around the central mounted figure of Babur. Present in the actual battle but absent in the painting are the wagon laager and matchlock-bearing infantry. It also has an anachronistic insertion of a war-elephant in the middle section. The painting accompanied the Persian translation of Babur's own memoirs in Chaghati Turkish titled *Tuzak-i Baburi* or *Baburnama*. Artist: Unknown.

Source: Wikimedia Commons.

### *Military Adaptation*

In its basics, the so-called Military Revolution refers to a set of adaptations by Western European states in response to the advent of new military technologies and techniques. Two of the most well-known forms of this adaptation was the rise of massed infantry formations to utilize the offensive power of the new firearms and the emergence of the bastion fortress to neutralize the threat posed by gunpowder artillery. While neither of these tendencies are visible in South Asia, this section discusses two other important forms of military adaptation that are.

The first is the adaptation of Mughal battle tactics to changing demands of technology and environment. A Turkish prince, Babur (r. 1526-1530) fought like his Timurid ancestors in his initial years. His own description of his early battles reveals that his post-nomadic battle tactics primarily revolved around the combined deployment of heavy cavalry and light cavalry. From here, Mughal battle tactics went through three main shifts in course of the sixteenth and seventeenth centuries.

In the early-sixteenth century, Babur learnt about the use of firearms from migrant Ottoman and Persian military professionals who joined his service. In order to combine these new technologies with his existing techniques, he adopted the tactic developed by the Ottomans in course of the fifteenth century. Here wagons would be lined up along the front of the army, interspersed with cannons, and with matchlock-bearing infantry positioned behind the wagons. Used to great effect by the Hussite forces of Jan Žižka of Bohemia against the armies of the Holy Roman Empire and the kingdom of Hungary in the early fifteenth century, the knowledge of the wagon fortress had passed onto the Hungarians and from them to the Ottomans by the mid-fifteenth century.<sup>5</sup> The Ottomans, however, adapted the wagon laager to solve its main challenge – deploying the new gunpowder weaponry while maintaining the traditional post-nomadic emphasis on cavalry. To this end, they arranged the wagons in a linear fashion along the front of their battle formation, unlike in European armies, where these temporary field fortifications would be built in the rear. Once lined up, the wagons provided cover to the matchlockmen in the same way that the pikemen did in Europe and the *guliai gorod* did in Russia. They placed armoured heavy cav-

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5 Brian Davies, “Guliai-gorod, Wagenburg, and Tabor Tactics in 16<sup>th</sup>-17<sup>th</sup> Century Muscovy and Eastern Europe”, in Davies (ed.) *Warfare in Eastern Europe, 1500-1800* (Leiden and Boston: Brill, 2012), 93-108, see 99-100, 102-103; Rhoads Murphey, *Ottoman Warfare: 1500-1700* (New York: Routledge, 1999), 107-108.

alry behind the laager in the centre and the two wings. Carrying mainly weapons of close combat, they were meant to deliver the shock charge. Light cavalry comprising mounted archers remained stationed at the extremities of the wings and in the vanguard to shower the enemy with arrows from a distance while encircling them from all sides. Around the same time that the Ottomans defeated the Persians in Chaldiran (1514) and the Hungarians in Mohacs (1526), Babur's armies routed the Afghans in Panipat (1526) and an Afghan-Rajput coalition in Khanua (1527) using this classic early modern tactic.<sup>6</sup>

This battle tactic continued through the sixteenth and seventeenth centuries, although adaptations to the South Asian military environment brought further changes. Owing perhaps to increasing interactions with South Asian communities like the Rajputs who preferred close combat, decreasing inflow of Central Asian mounted archers, and the increasing availability of alternate military resources like infantrymen and war-elephants in their new empire, Mughal battle tactics saw new shifts since the 1570s. This involved a gradual marginalization of light cavalry, whose evasive tactics and enveloping maneuvers had been a major part of Babur's armies. This transpired alongside a growing importance of heavy cavalry, infantry, and war-elephants on the field.<sup>7</sup>

The third shift comprised the transformation of battle tactics in riverine areas. Mughal armies campaigning in Sind and Bengal since the 1570s realised the challenge of dominating these riverine parts with cavalry and infantry alone. Four decades of intense campaigning in Bengal in the late-sixteenth and early-seventeenth centuries forced the Mughals to adapt their battle tactics further to adjust to the peculiarities of the region and the military needs they generated. Since the 1590s, Mughal armies increasingly used riverine fleets to supplement their land armies. While they had hardly any naval resources when they had entered Bengal in 1574, by 1608 we find them fighting with several hundred war boats. While the fleet – carrying both artillery and troops – proceeded along the rivers, the land armies would march by them along the banks. In times of conflict, each wing would come to the aid of the other. Although South Asia did not see the flourish of naval warfare which enabled European imperial and private ventures to project their power across the world, Mughal expansion into Bengal and later Assam involved a lot of amphibious warfare, which showed a different

6 Pratyay Nath, *Climate of Conquest: War, Environment, and Empire in Mughal North India* (New Delhi: Oxford University Press, 2019), 32-36.

7 Nath, *Climate of Conquest*, 36-38.

form of adaptation of military techniques to aquatic spaces.<sup>8</sup>

A second form of military adaptation pertains to positional warfare. A good example comes from the sixteenth-century Deccan Plateau. Generally, gunpowder artillery was not able to threaten fortresses in South Asia in the same way it did in Europe. South Asian fortresses were typically located on top of hills or in the middle of forests. This made it difficult for besieging armies to deploy cannons against them. Moreover, the lack of navigable rivers in much of the region made the overland transport of the heavy artillery pieces arduous, expensive, and time-consuming. This was especially true for Central India and the Deccan Plateau, where coincidentally the rugged geography encouraged fort-building activity and necessitated a lot of siege warfare for aggressors. In the end, even for massive empire-building projects like that of the Mughals, gunpowder artillery had little role in sieges.<sup>9</sup> Owing to this, siege operations provided little incentive for altering fort architecture, least of all transforming defensive design along the lines visible in contemporary Europe.

Yet, this did not mean that fort architecture did not change during this period. Fortresses in the Deccan went through a different kind of transformation, which is easy to miss if they are judged by the parameters set by the transformation of defensive architecture in Europe. First Jean Deloche, and then Richard Eaton and Phillip Wagoner have shown that unlike European fort architects, who focused on building low walls to reduce the size of the target available for besieging artillery, architects in the Deccan built walls that were even higher than the existing ones. The ramparts were provided with gun ports for the garrison to deploy their cannons from a great height. These revamped forts were further provided with very high cavaliers, and artillery platforms on the inside. Mounted on them, cannons could be rotated both up and down along the vertical axis as well

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8 Mirza Nathan, *Baharistan-i Gha'ibi*, JS 60-62, Jadunath Sarkar Collection, National Library, Kolkata, JS60:5a-5b, 42a, 106a, JS61:192b; Nath, *Climate of Conquest*, 57-82. The one major exception amidst the general disinterest of South Asian powers in building sea-faring navies were the Marathas, who operated a sizeable navy between the mid-seventeenth and mid-eighteenth centuries. Anirudh Deshpande, 'Limitations of Military Technology: Naval Warfare on the West Coast, 1650-1800', *Economic and Political Weekly* 27, no. 17 (1992), 900-904; Amarendra Kumar, 'The Politics of Military Control in the West Coast: Marathas, Mughals and the Europeans' in Kaushik Roy and Peter Lorge (eds), *Chinese and Indian Warfare: From the Classical Age to 1870* (London and New York: Routledge, 2014), 181-199.

9 Douglas Streusand, *The Formation of the Mughal Empire* (Delhi: Oxford University Press, 1989), 57-65; Jos Gommans, *Mughal Warfare: Indian Frontiers and High Roads to Empire, 1500-1700* (London and New York: Routledge, 2002), 136-145; Nath, *Climate of Conquest*, 38-50.





Fig. 2. Mughal miniature painting from the 1590s depicting Akbar's siege of the fort of Ranthambhor (1569). It shows a cannon being hauled up a steep hill by logistical labourers and bullocks. This reveals the environmental negotiations of military campaigns and the contribution of non-combat labour, both human and non-human. The painting accompanied Akbar's official biography titled *Akbarnama*.

Artist: Miskina. Source: Wikimedia Commons.

as a complete round of 360 degrees horizontally. Alongside this, polities in the Deccan built increasingly maneuverable cannons provided with better mounts since the mid-sixteenth century. The overall objective was to use the advantage of height to increase the firing range of the gunpowder artillery, so that besiegers could be prevented from nearing the fort and commencing a siege. This thrust on harnessing the offensive power of the artillery was in sharp contrast to the defensive focus of the bastion fortress in Europe, where the main objective was to enable forts to withstand a siege once it had commenced.<sup>10</sup> Thus, while the *trace italienne* – the hallmark of military transformation in the Military Revolution framework – did not make any appearance among South Asian polities during this period, fort architecture still produced an adaptive response to the advent of the new technology of gunpowder artillery.

What emerges from this brief discussion is even if South Asian polities did not exhibit the specific kinds of military adaptation we find in Europe, there were other forms of adaptation that were equally important. They marked important breaks from the tendencies established during the medieval centuries. The difference in the trajectories of these adaptations in these two separate parts of the world reflects the difference in the specific conditions within which military processes of the two regions unfolded and the immediate ground realities and concerns they responded to.

### *Military Organisation*

The changes that wrought in South Asia in the realm of military organisation and fiscal administration once again do not match those that occurred in Europe. In the latter, the sixteenth or seventeenth centuries was the period of the rise of standing armies. In South Asia, the practice of commanders maintaining private armies that would be fielded along with the central forces in times of war continued. However, this does not mean things remained static. One major way in which the sixteenth century marked a break was in terms of an overall

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10 Jean Deloche, *Studies on Fortification in India* (Pondicherry: Institut Français de Pondichéry, 2007); 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; Richard M. Eaton, and Philip B. Wagoner, *Power, Memory, Architecture: Contested Sites on India's Deccan Plateau, 1300-1600* (New Delhi: Oxford University Press, 2015), 241-287. Also see Pushkar Sohoni, 'From Defended Settlements to Fortified Strongholds: Responses to Gunpowder in the Early Modern Deccan', *South Asian Studies* 31, no. 1 (2015): 111-126.

drive towards a centralized military organisation. This was particularly true for the polity with by far the largest armies in South Asia during this period – the Mughal Empire. The main problem for premodern armies the world over was how to raise military forces and remunerate them effectively. A common solution that polities came up with in many parts of the world was to pay armies through revenue assignments instead of going through the trouble of collecting the revenue themselves and then paying the troops in cash. In this respect, the Mughals were inheritors of the practices introduced in South Asia by the various medieval sultanates. As the most powerful and enduring polity among these, the Delhi Sultanate set the major precedents here in course of the thirteenth through fifteenth centuries. They introduced in South Asia the practice of *iqtadari* from Islamicate West Asia. In this format, sultans gave out land grants (sing. *iqta*) from the various territories under their control to military commanders (sing. *muqta*). These commanders were expected to collect the revenue from these lands and use them to maintain their households and troops. In lieu of this, they were liable to bring their own troops to join the sultan's forces in times of war. In theory, the *iqta* as an allotment was transferable, and not permanent or inheritable. However, in practice, this proved difficult to enforce. On the one hand, sultans tried to centralize the military-fiscal administration in their own hands, transfer *iqtas* regularly, make the *muqtas* surrender to the state any revenue collected in excess, and prevent the inheritance and sub-infeudation of *iqtas*. But on the other hand, *muqtas* preferred the system to remain decentralized and often exercised for generations complete authority over the lands granted to them. While certain individual sultans like Alauddin Khalji (r. 1296-1316) and Muhammad bin Tughlaq (r. 1325-1351) launched drives of centralisation, *iqtadari* largely remained a decentralized arrangement through the medieval centuries.<sup>11</sup>

This changed profoundly since the mid-sixteenth century. The first notable moves in this direction came from the Afghan ruler Sher Shah (r. 1540-1545) and his son Islam Shah (r. 1545-1553). In a bid to centralize fiscal-military administration, they introduced the *zabt* system of assessing land revenue and enforced the practice of branding of horses to ensure the quality and numbers of the cavalry. These administrative reforms benefitted from the introduction of the pure silver currency *rupaya* in addition to the pure gold and copper currency. These centralizing reforms served as the immediate inspiration for the third Mughal emperor Akbar (r. 1556-1605). As Iqtidar Alam Khan points out,

11 Tapan Raychaudhuri and Irfan Habib (eds), *The Cambridge Economic History of India*, 2 vols. (Cambridge: Cambridge University Press, 1987), vol. I: c. 1200 – c. 1750, pp. 68-75.

between 1561 and 1567, administrative reforms increasingly reconceptualized land grants simply as revenue assignments allotted as a salary meant for individual commanders determined based on their military duties and social status. The state sought to limit the authority of the commanders over their allotment by taking on the responsibility of the territorial jurisdiction and routine administration of the area upon itself. These new approaches tended to counteract against the tendencies of political fragmentation that had plagued the *iqta* format. In 1573-1574, Akbar introduced a system of military ranks (*mansab*) where every commander was assigned a number that denoted their salary, the size of their cavalry forces, and the number of horses, elephants, pack animals, and carts the state required them to maintain. This was changed again in 1596-1597, whereby the *mansab* was broken down into two different ranks. The first (*zat*) denoted the personal rank of the commander and his position in the imperial military officialdom as well as his salary. The second rank (*sawar*) denoted the number of cavalymen he was supposed to bring to the state's service. In lieu of this, most commanders received a revenue assignment (*jagir*) that was transferable every few years. Commanders were appointed directly by the emperor, who also assigned their *mansab* and *jagir*, thereby ruling out any scope for the subinfeudation that characterised the earlier times. These administrative changes were accompanied by a rationalization of the fiscal economy through elaborate land surveys and revenue collection measures. Another feature of Akbar's drive towards centralisation was his practice of centrally appointing commanders (sing. *qaladar*) to individual fortresses.<sup>12</sup>

This centralisation of military organisation did not go unchallenged. Douglas Streusand argues that it was one of the factors that triggered a massive rebellion by a section of the Mughal nobility in 1580-1581. Akbar's drive towards centralizing power at the hands of the state and the nobility's demand for autonomy eventually led to what Streusand calls 'the Akbari compromise', whereby the emperor had to make some concessions to his commanders.<sup>13</sup> Chetan Singh points out that even in the heyday of empire, the commanders exercised a lot of influence on the transfer of their *jagirs* and that the state could not always move them around as arbitrarily as it would have liked to. In the end, the state had to

12 Iqtidar Alam Khan, 'The Mughal Assignment System during Akbar's Early Years, 1556-1575', in Khan, *India's Polity in the Age of Akbar* (Ranikhet: Permanent Black, 2016), 19-92; M. Athar Ali, *The Mughal Nobility under Aurangzeb* (New Delhi: Oxford University Press, [revised edition 1997] 2015), 38-41.

13 Streusand, *Formation of the Mughal Empire*, 154-172.

accommodate some of the interests of the nobility in its functioning.<sup>14</sup> These arguments notwithstanding, it can be hardly denied that the reforms of Sher Shah and Akbar marked a watershed in the relations between the imperial court and the nobility in terms of military organisation. The sheer amount of administrative centralisation that they introduced marked a major shift from the practices of the medieval sultanates, where governance tilted much more towards a decentralized format. Akbar's measures also demonstrated remarkable suppleness; through the seventeenth century, his successors kept on modifying his reforms to address new developments and their requirements.

### *Military Mobilisation*

Within the vast domain of military mobilization, this section focuses on two main aspects – military labour and military finance. Let us begin with the question of labour. While the medieval institution of military slavery survived among the Deccan Sultanates into the seventeenth century, what much of South Asia saw as something new around the fifteenth century was the expansion and diversification the military labour market that mostly comprised free mercenary soldiers of various complexion. This included different types of military participants, both immigrants and indigenous groups. Among the groups of foreign stock, two were particularly important across South Asia. The first were Persians, who started streaming into the Bahmani Sultanate of peninsular India since the early-fifteenth century. Along with sufis, traders, and artists, came warriors from across the seas. This flow continued even after the disintegration of the Bahmani Sultanate and the emergence of five successor states in the early-sixteenth century. The flow of administrators, soldiers, and traders was particularly strong for the sultanates of Bijapur, Golconda, and Ahmadnagar, whose ruling classes maintained close ties with Iran through the sixteenth and seventeenth centuries.<sup>15</sup> Persian military professionals also featured in the Mughal ranks, including celebrated commanders like Bairam Khan in the sixteenth century and Mir Jumla in the seventeenth.

Alongside the Persians, this period also saw the influx of Ottoman military professionals. This was especially true in the early-sixteenth century, when the Ottoman Empire collaborated with sultanates on India's west coast to oust the

14 Chetan Singh, 'Centre and Periphery in the Mughal State: The Case of Seventeenth Century Punjab', *Modern Asian Studies* 22, no. 2 (1988): 299-318.

15 Sanjay Subrahmanyam, 'Iranians Abroad: Intra-Asian Elite Migration and Early Modern State Formation', *The Journal of Asian Studies* 51, no. 2 (1992): 340-363.



newly arrived Portuguese from the Indian Ocean. Their efforts were not successful. As Portuguese maritime commercial activities grew rapidly in course of the sixteenth century, runaway Portuguese military professionals proliferated South Asian polities. Many of these deserters ran away with firearms from the imperial arsenal of the Portuguese settlements and brought them to their South Asian employers. In turn, local manufacturers produced copies of and innovations on these pieces. In course of the seventeenth century, the Portuguese were joined by Dutch, French, English, Italian, and German military professionals. Valued especially as matchlockmen and artillerymen, they found employment in small coastal polities and big empires alike. The activities of these migrant soldiers signaled one of the most distinct phenomena of the early modern world – increasing mobility of personnel, technologies, and knowhow across the globe.<sup>16</sup>

At the same time, the South Asian military labour market benefitted from the participation of armed peasants, whose presence becomes prominent since the fifteenth century. They cultivated the land during the agricultural season between April and September and joined armies as mercenaries in the search of livelihood during the winter months, which happened to coincide with the campaigning season in South Asia. In the fifteenth century, they served armies mostly as foot-archers. However, with the dissemination of the matchlock, an increasing number of peasants switched to musketry from archery. This was facilitated by the easy availability of nitre – the chief component of pre-industrial gunpowder – as well as iron, which were the two central ingredients for manufacturing matchlocks. Exploiting this easy availability of the raw materials, village blacksmiths emerged as mass producers of matchlocks, which the peasant-warriors armed themselves with. Over time, there emerged large communities of peasant-warriors like the Purabiyas and Baksariyas, who specialized in musketry and served in the armies of large polities. At the same time, the matchlock gradually emerged as a weapon of resistance for many communities fighting state power, including the Baluchis and the Sikhs.<sup>17</sup> The decentralised

16 Eaton, Radhika Chadha, 'Merchants, Renegades and Padres: Portuguese Presence in Bengal in the Sixteenth and Seventeenth Centuries', Unpublished Ph.D. Dissertation, Jawaharlal Nehru University, 2005; 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.

17 Dirk H.A. Kolff, *Naukar, Rajput and Sepoys: The Ethnohistory of the Military Labour Market in Hindustan, 1450-1850* (Cambridge: Cambridge University Press, 1991); 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; Iqtidar Alam Khan, 'Muskets in the Mawas: Instruments of Peasant Resistance', in K.N. Panikkar, T.J. Byres, and Utsa Patnaik (eds), *The*

nature of South Asia's military labour market is also indicated by the rise of warrior ascetic groups, who also emerged as a distinct mercenary group around this time. They became prominent following the heightened demand for military labour during the fragmentation of the Mughal Empire in the eighteenth century.<sup>18</sup> Finally, evidence from the sixteenth and seventeenth century indicates the presence of a large pool of logistical labourers alongside combatants in the labour market. Contemporary records of Mughal military campaigns showcase the myriad roles these labourers performed to keep South Asian armies moving.<sup>19</sup>

Continuing with this example of the Mughal Empire, it is possible to understand the kind of military finance that made the mobilization of this enormous military workforce comprising both combatants and non-combatants possible. John Richards points out that the empire benefitted from two pre-existing factors in South Asia – the long tradition of agrarian revenue administration by Indo-Islamic states and the region's involvement in trans-regional commercial networks as a major producer and consumer of commodities. He argues that Akbar took advantage of the conjuncture of these two processes during the second half of the sixteenth century to build an imperial economy based on a robust imperial monetary regime. Through administrative centralisation, this regime was implemented across vast areas of the Indian subcontinent, marginalizing the disparate local currency regimes and becoming the primary means of revenue transactions. Richards further argues that the Mughal Empire, alongside other South Asia polities, also benefitted from what today is commonly identified as a major phenomenon of the early modern centuries – the mining of gold and silver in the New World by the Spanish colonists and the flow of these precious metals into the Asian markets through Iberian trading networks. As a part of this process, the Portuguese ended up pumping enormous amounts of gold and silver into the South Asian economy during the sixteenth and seventeenth centuries.

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*Making of History: Essays Presented to Irfan Habib* (London: Anthem South Asia Studies, 2002), 81-103.

- 18 W.G. Orr, 'Armed Religious Ascetics in Northern India', *Bulletin of the John Rylands Library* 24, no. 1 (1940): 81-100; Dirk H.A. Kolff, 'Sannyasi Trader-Soldiers.' *Indian Economic and Social History Review* 8, no. 2 (1971): 213-220; David Lorenzen, 'Warrior Ascetics in Indian History', *Journal of American Oriental Society* 98, no. 1 (1978): 61-75; William R. Pinch, *Warrior Ascetics and Indian Empires* (Cambridge: Cambridge University Press, 2006).
- 19 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.

The Mughal silver *rupaya*, Richards notes, was based on the silver brought in from America and Japan. This was a result of another early modern phenomenon – the forging of global oceanic passageways and the emergence of the first true global economy.<sup>20</sup> Generated in this way, liquid cash from the Mughal treasury flowed out from the central and provincial treasuries to oil the military machine. In describing military campaigns, contemporary sources frequently mention the disbursal of huge amounts of cash for the payment of soldiers and workers, as well as the procurement of supplies.<sup>21</sup> Overall, the shift in the South Asian economy towards heightened monetization in the beginning of the period under focus aided the processes of war-making directly by making more cash available in the hands of empires like that of the Mughals for fulfilling their military needs.

### *Military Environments*

Military processes across the world involve campaigns shaping and getting shaped by the natural environment. This dimension of warfare has hardly ever figured in the Military Revolution debate, and hence has remained a marginal issue within the historiography on global warfare for this period. Yet, evidence from South Asia indicates a new relationship between armies and the environment that were forged since the sixteenth century in myriad ways. As the territorial reach of empires and other polities grew, their relationship with the environment too became deeper, with both impacting each other in profound ways. There were two dimensions to this. States sought to exert increasing control over the environment and its resources to satiate their growing military needs. At the same time, as the armies of these states ventured into different parts of

20 John F. Richards, 'Mughal State-Finance and the Premodern World Economy', *Comparative Studies in Society and History* 23, no. 1 (1981): 285-308. Richards' emphasis on the centralised nature and self-sufficiency of the Mughal monetary apparatus counters Karen's Leonard's view of the state's dependency on big money-lending firms for the flow of cash. Karen Leonard, 'The 'Great Firm' Theory of the Decline of the Mughal Empire', *Comparative Studies in Society and History* 21, no. 2 (1979): 151-167; Leonard, 'Indigenous Banking Firms in Mughal India: A Reply', *Comparative Studies in Society and History* 23, no. 2 (1981): 309-313. Irfan Habib provides an elegant analysis of why so much of liquid cash in the economy did not lead to the rise of capitalism as it did in contemporary Europe. Irfan Habib, 'Potentialities of Capitalistic Development in the Economy of Mughal India', *The Journal of Economic History* 29, no. 1 (1969): 32-78.

21 See for instance Abul Fazl, *Akbar-nama*, ed. Maulawi Abdur Rahim, 3 volumes (Calcutta, 1873-87), vol. II, 316; Inayat Khan, *Mulakhkhas-i Shahjahan-nama*, ed. Jameel-ur-Rehman (New Delhi: Embassy of Islamic Republic of Iran, 2009), 435, 438, 444.



Fig. 3. Mughal miniature painting from the 1590s depicting a fight between two groups of armed ascetics (*yogis* and *sannyasis*) near Kurukshetra (1567). Also involved are Mughal soldiers, who at the orders of Akbar (seated on the brown horse) supposedly came to the aid of the losing side and led them to victory. Such ascetics were increasingly active as mercenary soldiers in early modern South Asia. The painting accompanied the Akbar's official biography titled *Akbarnama*. Artist: Basawan. Source: Wikimedia Commons.



South Asia, they encountered new environments that they had to negotiate and that often shaped the nature of warfare. Let us look at them one by one.

Firstly, the emergence of the Mughal Empire – the first empire of truly sub-continental proportions since the Mauryan Empire in the fourth to the second centuries BCE – was accompanied by intense engagements with the natural environment. In part, this comprised Mughal enterprise towards moulding the environment and harnessing its resources for its imperial project arguably more intensely than ever seen before in South Asia. As imperial armies marched up and down the subcontinental landmass, logistical workers accompanied the soldiers, moulding the immediate environment to satiate the strategic needs of campaigns. For instance, in the mountainous areas of Kashmir and the Afghan region, they would beat the ground to create a road for the use of the armies.<sup>22</sup> In order to enable the troops to cross the numerous rivers of North India, the workers would build bridges across them.<sup>23</sup> In forested areas like North Bengal and Assam, they would cut down thickets to secure strategic locations and help the army advance into enemy territories.<sup>24</sup>

At the same time, as the enormous armies of the empire traversed different parts of South Asia with very large numbers of soldiers, camp followers, and nonhuman animals, they consumed enormous quantities of environmental resources like food grains, meat, vegetables, water, and firewood. Stewart Gordon has brought out with respect to Central India the deleterious environmental impact that the prolonged presence of such large armies could have on any particular area.<sup>25</sup> The empire also had to manage a complex economy of nonhuman animals for its military campaigns. Hundreds and thousands of animals had to be mobilised from different sources – elephants from the abundant forests of South Asia, cattle from its extensive agricultural lands, camels and mules from the drier regions of the western frontier, and large warhorses through overland and

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22 See for example Abdul Hamid Lahori, *Badshah-nama*, eds. Maulawis Kabiruddin Ahmad and Abdul Rahim, 2 vols. (Calcutta: Asiatic Society of Bengal, 1867-1868), vol. II, 463.

23 See for example Anthony Monserrate, *The Commentary of Father Monserrate on His Journey to the Court of Akbar, 1580-1582*, trans. J.S. Hoyland (New Delhi and Chennai: Asian Educational Services, 2003), 102-104, 109-110, 121-135.

24 Shihabuddin Talish, *Tarikh-i Aasham*, trans. Mazhar Asif (Guwahati: Department of Historical and Antiquarian Studies, 2009), 10, 14, 17-19.

25 Stewart Gordon, 'War, the Military, and the Environment: Central India, 1560-1820', in Richard P. Tucker and Edmund Russell (eds), *Natural Enemy, Natural Ally: Toward an Environmental History of Warfare* (Corvallis: Oregon State University Press, 2004), 42-64, see pp. 47-50.



overseas routes from Central and Western Asia.<sup>26</sup> Finally, the expanding military frontiers of the empire provided active encouragement to deforestation and the expansion of the imperial agrarian order. This was most visible in Bengal in the east, where the extension of the agrarian order received a new impetus under the new imperial conquerors since the late-sixteenth century, making the region one of the great centers of wet-rice cultivation in the early modern world.<sup>27</sup>

Evidence from the other parts of South Asia suggests that this intense engagement with the environment was not limited to the Mughal Empire. Smaller polities of the times were also forging new relationships with the natural environment based on their increasing military needs. Abhimanyu Singh Arha argues that in the Rajput kingdom of Marwar in Western India, there emerged new concerns about controlling environmental resources to satiate the supply needs of the army. More specifically, the large cavalry armies of the kingdom – which served the Mughal Empire as well – needed a constant supply of large quantities of fodder. We know that Rajput armies started using warhorses increasingly since the fifteenth century.<sup>28</sup> As these Rajput states emerged as substantial polities by the early-sixteenth century and as most of them became junior partners of the Mughal Empire by the mid-sixteenth century, the size of their cavalry forces grew rapidly, thereby heightening the logistical needs of their armies. The situation became especially challenging, however, as these states ruled over arid parts of Western India that lacked extensive pasture. All this forced kingdoms like Marwar to seriously take up the issue of fodder management by the seventeenth century. Through a new set of regulations, the state sought to extend the existing pastoral economy and increase its role in the management of ecological resources of the region. It secured the supply and provisioning of fodder for the cavalry through compulsory taxes imposed on villages as well as through encouragement towards the cultivation of specific types of grasses.<sup>29</sup>

At the same time, the natural environment profoundly moulded military enterprise. This is best visible in the case of the Mughal Empire, whose armies

26 Gommans, *Mughal Warfare*, 111-129; Nath, *Climate of Conquest*, 131-148.

27 Richard M. Eaton, *The Rise of Islam and the Bengal Frontier, 1204-1760* (New Delhi: Oxford University Press, [1993] 2000).

28 Norman 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* (New Delhi: Manohar, American Institute of Indian Studies, 1994), Vol. II: *Institutions*, pp. 192-215.

29 Abhimanyu Singh Arha, 'Hoofprint of Empire: An Environmental History of Fodder in Mughal India (1650-1850)', *Studies in History* 32, no. 2 (2016): 186-208.

ventured from the Himalayas in the north to the rugged plateaus of the Deccan in the south, from the rivers and forests of the Ganga-Brahmaputra Delta in the east to the arid stretches of Central Eurasia in the west. I have written elsewhere about the various ways in which the ecology, terrain, and climate of these various regions shaped the nature of logistics and strategy, as well as the deployment of personnel, nonhuman animals, and technology. While environmental negotiations must have characterised all processes of territorial expansion in South Asia in earlier times as well, what was new with the Mughal Empire since the sixteenth century was the remarkable adaptability that it exhibited in a diverse range of ecological zones at the same time. This contributed to their ability to build an empire of truly subcontinental scope. They used their traditional strength in mounted warfare in conjunction with the new tactical adjustments discussed earlier to defeat their adversaries across the vast plains of North India. Among the hills, forests, and plateaus of Central India and the Deccan – terrain that had traditionally encouraged fortifications, they showed great skill in winning slow and arduous sieges. They initially struggled amidst the rivers of the far east and west, but gradually adapted to the local landforms and learnt to wage amphibious campaigns combining their land armies with hundreds of war-boats that carried troops and artillery. They even managed to make war amidst the high mountains and valleys of Kashmir, the large rivers and dense forests of Assam, and the rugged and arid areas of the Afghan region, although with comparatively limited success than elsewhere. This dexterity in negotiating the wide variations of the South Asian environment went a long way in enabling them to overcome the limitations in power-projection felt by other polities earlier.<sup>30</sup>

### *Military Culture*

The advent of firearms not only brought about changes in the types of military tactics and mobilisation; it also provoked cultural responses distinct to the time-period under focus. A good example of this comes from the Nayaka states of South India, where there emerged by the late-sixteenth century numerous literary representations of the new weapons in the context of battles, sieges, and hunts. Calling firearms *agniyantras* (lit. fire-devices), such references form a distinct characteristic of the literature of this period in various South Indian languages. They reflect a form of cultural engagement with the new technology. Even more interestingly, various vernacular genres of the period started deploy-

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30 Nath, *Climate of Conquest*, 54-112.



Fig. 4. Mughal miniature painting from the 1590s depicting Mughal soldiers involved in a riverine battle from 1565. The scene of boats carrying foot-archers and matchlockmen brings out the military adaptation the predominantly equestrian post-nomadic armies of the Mughals underwent in response to South Asia's natural environment. The painting accompanied Akbar's official biography titled *Akbarnama*.

Artist: Tulsi. Source: Wikimedia Commons

ing *agnyantras* as a literary trope in various non-military contexts in this period. This revealed a deep fascination with novelty of guns. For instance, a seventeenth-century poem titled *Vijayaraghavacandrikavirahamu* used the imagery of Manmatha, the Love-God, aiming his lotus-gun – packed with gunpowder in the form of moonlight – at the heroine, leaving her to seek refuge in the fortress of her lover Vijayaraghava's embrace. As V. Narayana Rao, David Shulman, and Sanjay Subrahmanyam point out, here the poet replaced the conventional weapons of the Love-God – arrows of flowers fired from a sugarcane-bow whose string comprises bees – with the novel device of the lotus-gun after the new technology of the times.<sup>31</sup> At the same time, the advent of firearms evoked a strong negative reaction from the traditional politico-military elite of the region. Much like its counterparts in different other parts of the world including Western Europe, this elite had conventionally fought with shock weapons like swords and spears; inter-personal close combat defined their idea of honorable military engagements and death in combat. As some of their adversaries deployed the gun to shoot them down from far away or from behind covers, contemporary literature captured this elite condemning the new technology as dishonorable and cowardly. As this elite faltered in their adoption of and response to the new technology, several non-elite groups like the Bedas and Boyas took advantage of being unencumbered by such cultural baggage owing to their tribal backgrounds; they emerged in political importance during this period using firearms to great effect.<sup>32</sup>

Another cultural shift of the period is that alongside literary texts, we find a proliferation of miniature paintings that depict scenes of war. One of the largest corpus of such paintings emerged at the Mughal atelier during the second half of the sixteenth century. As Akbar sponsored the writing of dynastic histories as well as the translation of his grandfather Babur's Turkish journals and Sanskrit texts like the Mahabharata into Persian, many of these manuscripts came to be richly illustrated. As narrative paintings, they usually depicted specific scenes being described in the literary text. Scenes of war comprised one of the most important themes of these paintings. As Ali Anooshahr and Rosalind O'Hanlon suggest, the ability to engage in military violence comprised an important trait of elite masculinity in the Mughal courtly context of the sixteenth and early-sev-

31 V. Narayana Rao, David Shulman, and Sanjay Subrahmanyam, 'The Art of War under the 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), pp. 133-152, see pp. 134-139.

32 Rao, Shulman, and Subrahmanyam, 'Art of War under the Nayakas', 146-148.

enteenth centuries.<sup>33</sup> The frequent depiction of the main protagonists of these narratives – Babur, Akbar, or the heroes of the Mahabharata – in military action conveys the same idea. A large number of paintings depict these figures in action – leading their troops in battles, taking part in sieges, and even participating in hunts. Often depicted through chaotic ensembles of soldiers, weapons, and nonhuman animals, the theme of warfare emerged in these paintings as a means of glorifying their protagonists and their polities. Compared to this tendency in the sixteenth century, seventeenth century Mughal paintings went in newer directions.

Under Jahangir and Shah Jahan, allegory paintings and ordered courtly scenes became ways of expressing notions about the grandeur and opulence of the emperors and their empire. Milo Cleveland Beach has shown that at the same time, war scenes became more layered and realistic. This transpired as Mughal artists came to borrow the visual techniques of contemporary European oil-paintings. Using this, they nuanced their depiction of the military figures as well as the terrain and ecology that served as the backdrop of war-scenes.<sup>34</sup> Another way in which realism crept in was the emergence of a concern for describing in detail through the visual image the various details of landmark instances of military conflict.<sup>35</sup> Finally, complementing contemporary South Indian literature that inserted allegories of firearms in unlikely places, miniature paintings expressed the Mughal fascination with the new technology by inserting them into portraits of emperors and imperial figures. The tendency of depicting war scenes to glorify the patron is also visible among the contemporaries of Mughals and later powers. A good example are the Rajput polities of Western India and the Punjab Hills, where the proliferation of scenes depicting battles and hunts came to comprise a dominant theme by the late-seventeenth century as a means of glorifying the rulers and their polities.

A third cultural shift visible with regards to the realm of warfare is the rise of a universalist political discourse to legitimise military violence. Visible most spectacularly in the Mughal Empire, this political ideology came to define king-

33 Rosalind O'Hanlon, 'Manliness and Imperial Service in Mughal North India', *Journal of the Economic and Social History of the Orient* 42, no. 1 (1999): 47-93; Ali Anooshahr, 'The King who Could be Man: Gender Roles of the Warrior King in Early Mughal India', *Journal of the Royal Asiatic Society* 18, no. 3 (2008): 327-340.

34 See for instance the painting *Battle Scene*. Milo Cleveland Beach, *The New Cambridge History of India*, vol. I.3: *Mughal and Rajput Painting* (Cambridge: Cambridge University Press, [1992] 2002), 133-138.

35 See for instance the painting *Daulatabad Besieged*. Beach, *Mughal and Rajput Painting*, 163.



ship in terms of universal qualities like justice, benevolence, and the preservation of social order and harmony. One of the most sophisticated articulations of this ideology is visible in Abul Fazl's *Akbarnama*, the official biography of Akbar from the late sixteenth century. Drawing heavily on the medieval Persian philosopher Nasiruddin Tusi, he defined kingship as the divinely appointed fountainhead of these qualities. He posed the spreading of justice across the world as the central responsibility of sovereigns. This marked a sharp contrast with the tendencies in the Delhi Sultanate. Founded by Turks who were relatively new converts to Islam, faith had served as an important fulcrum of political philosophy in the sultanate. Several of the sultans had legitimised their rule by getting formal investiture from the caliph of Baghdad. Following the Mongol assassination of the last caliph al-Musta'sim, the Delhi sultanate had emerged as one of the main centres of the Islamic world and a haven of Muslim refugees from Central and Western Asia escaping Mongol conquests. Sultanate authority too was repeatedly imagined in this period in terms of models based on the Prophet and sufis. A shift away from this Islamic paradigm to one based on more universal notions for defining monarchical authority allowed Abul Fazl – and following his lead other Mughal chroniclers – to justify war and conquest as an unavoidable, if unfortunate, means of fulfilling monarchical responsibility. While Islam did feature from time to time in the legitimisation of violence, the centrality of war as a means of establishing divine justice was never dislodged from its discursive centrality during the seventeenth century. Beginning in the sixteenth century, this tendency marked an important shift in military culture in South Asia, especially in comparison to the immediate political predecessors of the Mughals in North India.<sup>36</sup>

## *Conclusion*

What emerges from this discussion is that the period from the sixteenth century to the early eighteenth did comprise a new era in South Asian warfare. Several novel tendencies emerged around the sixteenth century that profoundly transformed the patterns established previously during the medieval centuries. This shift was not uniform across the different domains of the diverse polities

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36 Blain H. Auer, *Symbols of Authority in Medieval Islam: History, Religion and Muslim Legitimacy in the Delhi Sultanate* (London: I.B. Tauris, 2012); Pratyay, Nath, 'The Wrath of God': Legitimation and Limits of Mughal Military Violence in Early Modern South Asia', in Peter Wilson, Erica Charters, and Marie Houllemare (eds), *A Global History of Violence in the Early Modern World*, (Manchester, Manchester University Press, 2020), 161-176.

of the enormous landmass of South Asia. Yet, collectively, the shifts across the various fields discussed in this article marked the emergence of a new paradigm which should be seen to comprise South Asia's military early modernity. Many of these shifts were the most visible in the military processes of the Mughal Empire, a polity that played a major part in inaugurating military early modernity in this region. Seen through the lens of the Military Revolution framework – with its parameters derived from the specific transformations of European warfare – these important changes can go undetected, as indeed they have in much of the existing historiography. However, abandoning that framework and understanding the military shifts of the region on its own terms reveals the transformation South Asian warfare went through during this period.

At the same time, we need to bear in mind that early modernity as a historical condition was a global phenomenon, with various regions having their own versions of it due to disparate interactions between globally shared processes and locally specific tendencies. Hence just as South Asia went through its own set of shifts, other parts of the world might also have had their own sets of changes. With its original focus, the Military Revolution debate highlighted the nature of shifts that transpired in Europe. Instead of reading the history of the rest of the world through that lens, new independent enquiries into the dynamics of change and continuity in the domain of warfare might reveal more versions of military early modernity. The variations across these different versions of military early modernity might help us understand how historical tendencies – both global and local – interacted with military processes in various regions, while marking a shift from medieval antecedents and leading onto modernity. Without prioritizing the historical experience of any one part of the world, the category of military early modernity thus democratizes historical investigation and fosters truly comparative history writing.



This 1820 hand-colored aquatint after William Hutton (1797--1860) depicts Adoo Quamina, a captain and courtier to the Ashanti king. It forms the frontispiece to Hutton's book *A Voyage to Africa...in the Year 1820*, which was published in London the following year. Source: Wikimedia Commons.

## Was There a Military Revolution in Africa?

By JOHN THORNTON  
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The long-lasting debates about the causes and consequences of the Military Revolution in Early Modern Europe began with the examination of the Thirty Year's War, and then gradually incorporated the later medieval period, and eventually worked this way into the wider world. While topics and discussion range widely, a key component in the discussion involves the use of fire-power in warfare, both hand-held devices and artillery. In earlier versions of the debate, the Military Revolution in Europe was used to explain European conquests overseas as well, but from the mid-1990s onward, the idea that the European colonial empires were products of the Revolution has been challenged. Jason Sharma's recent work outlines this challenge well, pointing out that whatever changes in warfare happened in Europe, the techniques of war in Europe were not exported, and conquests were usually done with local forces and often even local arts of war.<sup>1</sup>

Sharman and others have paid special attention to the Portuguese failures in Angola, where there was a sustained attempt at conquest as an example of the failure of Military Revolution technologies and techniques to support expansion in Africa. In fact, Angolan failures have become something of a case study, an example that tests the rule, and Miguel Geraledes Rodrigues, has recently argued that it provides an example of how Africans adopted some of the techniques from Europe into their own warfare.<sup>2</sup>

- 1 Jason C. Sharman, "Myths of Military Revolution: European Expansion and Eurocentrism," *European Journal of International Relations* 24 (2018): 491-513. This concise essay was followed with a book, *Empires of the Weak: The Real Story of European Expansion and the Creation of the New World Order* (Princeton: Princeton University Press, 2019).
- 2 Miguel Geraledes Rodrigues, "The Portuguese Conquest of Angola in the Sixteenth and Seventeenth Centuries (1575-1641): A Military Revolution in Africa?" in Helder Carvalhal, André Murteira, Roger Lee de Jesus, eds. *The First World Empire: Portugal, War and Military Revolution* (London: Taylor and Francis, 2021) pp.

While the Military Revolution debate has usually focused on attempted conquests in America, Asia and Africa, there has been little attempt to discuss whether to not some elements of the advances in Europe may have been absorbed and enhanced by non-European powers. While Europeans attempted conquest in Angola, elsewhere they had little input into the way Africans waged war amongst themselves. Certainly, one component of European warfare was taken up in Africa consistently and that was gunpowder weapons. Hundreds of thousands of muskets and ancillary components of gunpowder weapons entered African markets during the early modern period.<sup>3</sup> Economic historians like Warren Whatley show a strong correlation between the import of guns and the export of slaves.<sup>4</sup>

If this aspect of African military culture has been discussed it is largely in terms of the slave trade. The alleged “gun-slave” cycle, for example, was used as a mechanism to explain why Europeans were able to coax unwilling African rulers to sell slaves in such quantities as they did. The argument was that the muskets were transformative weapons to such a degree that whoever possessed them in numbers was certain to win major victories against all those who did not have them. Exploiting a monopoly over importing guns allowed European merchants and trading companies to supply guns to rulers who agreed to use them to capture slaves, and deny them to those who would not. In the end, the theory goes, the unwilling, pressed by their collaborating neighbors were forced to enter into this “Devil’s Bargain.”

Our purpose here is not to examine the veracity of the gun-slave cycle, though certainly the extensive trading records of European companies do not provide any evidence of the sort of explicit selling or refusing to sell firearms found in the classic statement. There is little evidence from these records of hesitancy to sell slaves on the part of African rulers. Rather, what was the influence of this particular type of technology in African warfare? Africans imported guns by the hundreds of thousands, but they did not import any other significant piece of military hardware, including cannons or bayonets.

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3 Joseph Inikori, “The Import of Fire Arms into West Africa, 1750-1807: A Quantitative Analysis,” *Journal of African History* 18 (1977): 339 – 368; W. A. Richards, “The Import of Firearms into West Africa in the Eighteenth Century,” *Journal of African History* 21 (1980): 43 – 59

4 Warren Whatley, “The Gun-Slave Hypothesis and the 18<sup>th</sup> Century British Slave Trade,” *Explorations in Economic History* 67 (2018): 80-104.



## Gold Coast

Prior to 1680, guns were not much used in Africa, in some measure because the sixteenth and seventeenth century matchlocks were difficult to use, and did not work well in rainy climates. This did not prevent some regions from importing them, as the Gold Coast (modern day Ghana) moved quickly to acquiring firearms (in spite of a notably rainy climate), other regions were quite reluctant.<sup>5</sup> After 1680, however, when the flintlock musket was introduced, it proved much more acceptable in African warfare, and the large numbers documented by Inikori and others prove this point.

But a revolution, or at least a change partially involving firearms did take place. Ray Kea, in a superbly documented study of the seventeenth century Gold Coast showed that warfare took a distinct change in the post 1680 period. Prior to this, wars involved relatively small numbers of highly skilled soldiers who typically fought hand to hand with swords and shields, supported in preliminary parts of the battle by lower ranking people loosing arrows. The musketeers, to the degree that missile weapons were used, were placed in the ranks of the archers.

Beginning in the late seventeenth century, however, much larger numbers but less skilled musketeers were being recruited into armies in the region. The professional soldiers with hand to hand combat skills gave way to masses of infantry using muskets, and, it might be added the capture of the larger numbers of people now engaged in larger battles helped to fuel the slave trade. Moreover, war designed to weaken enemies by demographic destruction, to “eat the country” also became common.<sup>6</sup>

Kea’s argument is hard to document particularly well, in spite of the substantial material on the social organization of warfare and armies. This is particularly true with regards to firearms. In spite of a rainy climate that could easily put matchlock wicks out, the soldiers of the Akan and Gã-speaking region of the Gold Coast took an early interest in guns. Pieter de Marees, writing in 1602 described the ordinary equipment of soldiers and made it clear that they used primarily archery and javelins as missile weapons and swords for close quarter combat while protecting themselves with shields.<sup>7</sup> But de Marees noted “they

5 For an outline of many of the points raised here, see John Thornton, *Warfare in Atlantic Africa, 1500-1800* (London, 1999).

6 Ray Kea, *Settlements, Trade and Politics in the Seventeenth Century Gold Coast* (Baltimore, 1982), pp. 130-168.

7 Pieter de Marees, *Beschryvinge ende historische verhael, vant Gout Koninckrijck van Gunea...*

also buy many Firelocks and are beginning to learn to handle them very well,” although apparently not enough to displace the bow.<sup>8</sup> By mid-century, however, guns had become much more frequent, with a report in 1658 describing “thousands” of guns being used.<sup>9</sup>

It is easy to document warfare’s frequency in the Gold Coast, but harder to determine exactly how wars were fought. European observers who clustered in a variety of fortified trading posts along the coast enumerated wars and encounters on a regular basis in the thousands of pages of documentation they left. But the accounts of precisely how war was conducted are relatively few, since the writers of the documentation rarely witnessed the fighting and therefore are not always easy to interpret.

Nevertheless, it seems clear that in the earlier periods the elite soldiers fought hand to hand with sword and perhaps with a thrusting assegai; they were supported by archers who took up positions of the flanks and the rear, and launched their attacks in a charge that devolved into hand to hand fighting. The archers often loosed their arrows skyward, so the descending arrows would strike the soldiers from above, arrows were frequently poisoned, so slight wounds could be fatal.

Firearms would be inappropriate for these kinds of attacks since they can only be used with direct fire, and so musketeers found their way in front lines. But they had an advantage over archers first, because the bullet traveled so fast that it was impossible to dodge (as arrows were) and more to the point, the bullet could pierce any sort of defensive armor, which again was not true for arrows. As musketeers moved more into the front, they eventually came to dominate the battlefield, and later accounts.

But musketeers defied the Military Revolution’s great interest in formations and fire drills, for musketeers were deployed entirely differently. Johannes

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(Amsterdam, 1602) mod. ed. S. P. L’Honoré Naber (Hague, 1912), English translation, Albert van Dantzig and Adam Jones, *Description and Historical Account of the Gold Kingdom of Guinea (1602)* (Oxford, 1987), (marking original foliation) fols. 46-47. He calls the weapon an assegai which can be a thrusting weapon, but Michael Hemmersham gave explicit descriptions as the use as a thrown javelin, Michael Hemmersham, *Guineische und West-Indianische Reißbeschreibung de An. 1639 biß 1645 von Amsterdam nach St. Joris de Mina* (Nuremburg, 1663, mod. ed. with original pagination marked S. P. l’Honoré Naber, Hague, 1930, English trans, with original pages marked, Jones, *German Sources*) p. 65.

8 De Marees, *Beschryvinge*, p. 46b.

9 OWIC 58 Report of Valckenburg to XIX, June 1658, cit Kwame Daaku, *Trade and Politics on the Gold Coast, 1600-1720: A Study of the African Reaction to European Trade* (Oxford: Clarendon Press, 1970), p 150 n 2

Rask's particularly good descriptions derived from a residence from 1708 to 1713 says that they used no "fighting order" but proceeded to a battlefield in small units of several hundred. Once engaged they never fought standing up, but "crawl through the grass with remarkable speed" until they spot targets. They shoot without aiming but "as soon as they feel they have a target close to them."<sup>10</sup> Ludewig Römer, writing about the middle of the century also noted the loose organization and opportunistic firing, leaping and dancing before their enemies to induce them to shoot and miss and thus gain an advantage for return fire. He wrote of engagements being prolonged but without hand-to-hand fighting, as battles went on for hours, and as troops switched from regular (pre-wrapped in cartridges) to reserve ammunition of loose powder they fouled their guns so that they fired without the balls being discharged. While the officers still carried swords, they were used for trophy taking of heads and not as a combat weapon.<sup>11</sup>

These tactical arrangements and their transformation must also take into consideration the specific conditions of war in the Gold Coast region, which made it radically different from Europe. The tropical rainforest that covered most of the area (or rather secondary growth from cleared rainforest) rendered travel difficult, and often armies had to advance along narrow paths which forced soldiers to advance along a limited front, sometimes just one file, perhaps two or three, but forcing armies to march in very long lines, then having to deploy quickly when in the face of the enemy. This often meant that large battles were relatively scarce and small, skirmishing adventures, as the witnesses described, more common, problems which were exacerbated when, following the adaptation of firearms, army sizes grew.<sup>12</sup>

Thus, the decision to place archers in the rear of formation with instructions to rain arrows down on the enemy allowed them to be most effectively engaged in an environment where it was likely that the battlefield would be small, and soldiers would have to form deep ranks because not all could fit in the space. When the musketeers using direct fire came forward, they could not use the tactic of shooting in the air, and so the whole formation had to be rearranged to maximize

10 Johannes Rask, *En kort og sandferdig Reise-Beskrivelse til og fra Guinea* (Trondheim, 1754), pp. 89-92, English translation with original pagination marked by Selena Axelrod Winsnes, *A Brief and Truthful Description of a Journey to and From Guinea* (Legon, Ghana, 2008).

11 Ludewig Ferdinand Römer, *Tilforladelig Efterretning om Kysten Guinea* (Copenhagen, 1760), p. 212, English translation with original pagination, Selena Axelrod Winsnes, *A Reliable Account of the Coast of Guinea (1760)* (Oxford: Oxford University Press, 2000).

12 All these issues taken up in Thornton, *Warfare*, pp. 69-73.

their capacity, which they seem to have done by fighting what writers like Rask and Römer described as small units going in a disorderly encounter, more resembling extending skirmishing than what a European would consider a real war.

Gunpowder weapons then did change the tactics of battles, but did not necessarily cause the larger social change that the Military Revolution is said to have caused in Europe. The eighteenth century witnessed the appearance of larger states, which absorbed or at least incorporated their neighbors: Akwamu, Akyem and Asante being most prominent. These kingdoms deployed large armies, mostly using firearms and they were the ones who purchased them. Kea contends that even the quite radical emergence of mostly peasant armies using guns in the interior parts of the Gold Coast was not a result of the adoption of gunpowder weapons, but that other social changes lay behind that.<sup>13</sup> Still, the correlations appears to exist, though its consequences, even in the military field seem relatively less.

### *Dahomey and its Region*

The situation of Dahomey, although often paired with the Gold Coast both because it is adjacent and because a large and relatively dominant kingdom (either Dahomey or Asante on the Gold Coast) does offer different possibilities. If nothing else, Dahomey lay in the “Gap of Benin” a region in which rainfall conditions did not allow the growth of tropical rainforest and thus left open country that potentially might resemble Europe more than the Gold Coast did. Furthermore, cavalry could operate in the area, and the northern empire of Oyo sent cavalry armies south on a regular basis, mass invasions being reported as early as the 1690s.<sup>14</sup> In this way, at least in theory, there would be a better example to test the question of the Military Revolution.

The region is not very well described before the middle of the seventeenth century and even then, military details must wait until the end of the century. Allada, an early powerful kingdom took a fairly early interest in firearms, Capuchin missionaries noticed a store of guns in the palace.<sup>15</sup> At the turn of the eighteenth century, Willem Bosman reported that Whydah, Allada’s rebellious

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<sup>13</sup> Kea, *Settlements*, pp. 164-168.

<sup>14</sup> Willem Bosman, *Nauwkeurige Beschryving van de Guinese Gout-, Tand- en Slave-kust* (Utrecht: Schouten, 1704), p. 184.

<sup>15</sup> Biblioteca Provincial de Toledo, Colección de MSS Borbón-Lorenzana, MS 244 Basilio de Zamora, “Cosmografía o descripción del mvndo” (1675), fol. 59.

neighbor, armed its men with “some flintlocks [*snaphanen*] bows and arrows, fine well-made hacks” and assagais, but most notable were the throwing clubs that they used which “Gold Coast people fear as much as a musket.” He thought less of their organization, and that they fled the field when suffering even a few casualties.<sup>16</sup>

European observers thought that cowardice led them to fight the way they did. The Sieur des Marchais, a keen observer visited Whydah in 1724 and learned about fighting. He believed their cowardice caused them to engage in what he thought a disorganized way without any order. This disorder took the form of mobilizing troops into “great platoons without ranks and order” probably meaning not standing in formation. They engaged in a good deal of maneuvering and skirmishing, retreating quickly if they thought they could not win. But if battle was joined, then they fought with determination, musket shots begin and then “the sky is darkened by arrows” and they charged their opponents, throwing “javelins” (perhaps the throwing clubs) and covering themselves with shields. Then “finally they come to sabers and knives, and it is then that ferocity and fury appear in all their extent, no one thinks of asking for quarter.”<sup>17</sup>

In 1724 King Agaja of Dahomy brought a large army down to the coast and conquered Allada. In the process he took some of the trading officials in the various fortified towns they had built, including the director of the English fort, Bullfinch Lambe. In returning Lamb to England, Agaja composed a letter to George II announcing his arrival, conquest and role as new master of the coast. Along with boasting about the extent of his expansion of Dahomey, Agaja also noted the weapons he used, “both I and my Predecessors were, and are great Admirers of Fire-Arms, and have almost entirely left off the Use of Bows and Arrows, though much nearer the Sea they use them still, and other [old] fashion-ed Weapons, as scragged Spears, and a short sort of a Bat or Stick with a large Knob at the End, which they so dextrously throw, that wherever it hits it prodigiously bruises and wounds; but we think none better than the Gun, and a heavy sort of [muskeet or] Cutlass, which we make our selves, that will cleave as a broad Ax.”<sup>18</sup>

16 Bosman, *Nauwkeurige Beschryving*, p. 183.

17 Jean Baptiste Labat, *Voyage du Chevalier des Marchais en Guinée, isles voisines, et a cayenne, fait en 1725, 1726, & 1727* (4 volumes, Amsterdam: Compagnie, 1731) 2: 190-191.

18 Published first in the *Pennsylvania Gazette* in 1732, Robin Law has established a critical variorum edition in “An Alternative Text of King Agaja of Dahomey’s Letter to King George I of England, 1726,” *History in Africa*, 29 (2002): 265. Law’s discovery of this early edition challenged the idea that it was a late forgery serving abolitionist causes.



Agaja clearly showed that gunpowder weapons, and indeed whatever they might mean for the Military Revolution had arrived on the coast. Unfortunately, we cannot see very clearly in subsequent texts how much warfare had been transformed by Agaja's apparent policy of acquiring large quantities. The early descriptions make it clear that he was not the first to use gunpowder weapons, which were common on the coast, as his letter implies. His own army clearly still made use of older weapons, for William Snelgrave, writing at the same time, noted that during a military review, "several companies with proper colors and officers, armed with musquets and cutting swords and shields," whose utility would be greatly diminished as firearms continued in use.<sup>19</sup>

Agaja and his successors would have numerous military problems brought on by his conquests. Oyo, the inland empire, disturbed by his unification of the coast sent regular expeditions against him, composed entirely of cavalry. Agaja had no easy remedy for these attacks, mostly by running away into wooded areas and letting Oyo's forces run rampant through the country, hiring foreign advisors to build European style fortifications with artillery.<sup>20</sup> But climate considerations did not allow him to build cavalry forces of his own, nor did it allow the Oyo armies to remain in the country when the rainy season began.

Additional problems beset him in his coastal conquests. While he had effectively defeated the armies of Whydah and Allada, rump dynasties taken from their elite built new bases in the lagoons and swamps of the coast, on the east at Porto Novo, and on the west at Popo.<sup>21</sup> There they used their superior marine power to harass him and were able to defend against his counterattacks effectively, occasionally drawing on armies moving from the Gold Coast, both state armies like Akwamu, but also mercenary groups.<sup>22</sup> Agaja and his successors faced constant harassment by these dynasties, who were not strong enough to retake their former homes, but strong enough to resist persistent Dahomean campaigns against them.

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19 William Snelgrave, *A New Account of Some Parts of Guinea and the Slave Trade* (London, 1734), pp. 77-78.

20 Letter of Dupetitval, 20 May 1728 in Robin Law, ed, *Contemporary Source Material for the History of the Old Oyo Empire, 1627-1824* (Ibadan, 1992), 20-2. Provides a good description of both an attack and the precautions.

21 Archives Nationales de France [ANF], C6/25, 4 August 1728. Houdoyer Dupetitval, here actually coordinated with the Oyo attack.

22 Dupetitval, 8 October 1728 cited in Robin Law, *Correspondence of the Royal African Company's Chief Merchants at Cabo Corso Castle with William's Fort, Whydah, and the Little Popo Factory, 1727-1728* (Madison: African Studies Program, African Primary Texts, 3 1991) p. 52, n 104.

Agaja's successor Tegbesu took on new conquests and responsibilities in an attempt to unite the politically divided Mahi country north of Dahomey under a local dynasty related to Dahomey's own. The Mahis lived in rugged country and the wars devolved into sieges of fortified caves, in which notable victories were followed by disastrous defeats. Werner Peukert, anxious to show that Dahomey's military actions were not simply slave raids, showed how often Dahomey's wars were either unsuccessful in capturing people, or disastrous in terms of their own losses and defeats.<sup>23</sup> While the course of these wars can be followed in detail and a good chronology established by the correspondence of the various European commercial establishments on the coast, they were rarely in a position to observe in detail how Dahomey waged war, and what sort of impact the components of the Military Revolution might have had.

It is clear, however, that by the early eighteenth century, the musket had replaced the bow (and various thrown devices, including the club) as the only missile weapon used in Dahomey's army or that of its neighbors and enemies. The only other weapon regularly noted was the sword used in all hand to hand fighting, but apparently without shields, as these were no longer seen in military reviews. Cannons were occasionally employed, but casually and not very systematically, while fortification focused on walls and ditches without any hint of the elaborate anti-artillery designs that Europeans manipulated; Europeans resident in coastal posts sometimes used cannon fire to repel infantry attacks on their fortifications, but this was not imitated by any of the African powers. A certain Frenchman named Galliot left the French post at Whydah and went inland where, "he taught their King Dada [Agaja] the manner of entrenching themselves and roughly erecting a few fortifications, which was unknown among these peoples."<sup>24</sup> This was one of Dahomey's attempts to repel Oyo's cavalry, but aside from digging earthworks, there was nothing particularly European about his advice.

### *Western Sudan*

The broad plains of the savannah of the Western Sudan might offer an interesting case study for the impact of the Military Revolution. The area was relatively flat and cavalry warfare had been prominent in it for centuries. Given that an infantry revolution was one of the core components of the Military

23 Werner Peukert, *Der atlantische Sklavenhandel von Dahomey (1740-1797)* (Wiesbaden: Steiner, 1978).

24 ANF Colonies C6 25, 8 November 1730. Memoire. Trahison du Sr. Galot.

Revolution, it would be an idea test for this portion of the discussion. But there were differences in the way cavalry warfare had been conducted in Europe and in West Africa.

In Europe the Medieval warscape was dominated by armored cavalry, to the point where chroniclers often failed to mention the actions of infantry on the battlefield. But in Africa, the cavalry was not armored and relied far more on missile weapons than on shock. Thus, in Europe the critical turning point was the use of massed infantry with anti-cavalry weapons: pikes and crossbows (followed by muskets). But African cavalries were not much affected by their contact with Europe, well into the eighteenth century, cavalries operated in open charges intending to attack infantry or other cavalry forces with javelins or arrows, and eschewing a home change until the battle was won, since all carried sabers as well.<sup>25</sup>

Infantry, for their part, at times did adopt fairly dense formations to resist cavalry, but as African cavalries did not often make home changes, the task of discouraging horses by closing ranks was less important. Otherwise, infantry adopted the same sort of loose organization and firing at will that characterized other regions and led European observers to think they lacked order and discipline.

The arrival of muskets had relatively little impact on warfare, and in fact the region was remarkably slow to take them up. Certainly, early muskets were eschewed, the flintlock revolution of the 1680s did bring more units equipped with firearms into play. But in the rough world of warfare, firearms conveyed relatively little advantage to infantry, their rate of fire was lower than either arrows or javelins, and their range and accuracy sufficiently limited that they could not transform the battlefield over the older weapons. Their one advantage, great penetrating power and the invisibility of the bullet, were largely obviated by the relatively dispersed order of attack of cavalry, and the fact that engagement was more often at a distance, and so inaccuracy of gunpowder weapons was a distinct drawback.

### *Angola*

If one were looking for the best place to find the Military Revolution deployed in Africa, one need go no farther than Angola. It was in the Portuguese colony of Angola, founded in 1575, that European led armies, with European components fought directly with African armies.<sup>26</sup> One of the more notable

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25 This section follows Thornton, *Warfare*, pp. 19-40.

26 For an introduction to the region, see Linda Heywood and John Thornton, *Central Africans*,

early Portuguese commanders was Luis Mendes de Vasconcelos, governor of Angola from 1617 to 1621, the single most successful Portuguese commander who made a rapid conquest of a substantial portion of the Kingdom of Ndongo in a series of devastating campaigns. Prior to coming to Angola, he had served elsewhere in Portugal and its empire and wrote a treatise on the art of war. This treatise, *Arte Militar* published in 1612, was as book written very much in the style of the Military Revolution, with detailed comparisons between modern and ancient warfare, and like many others, fascinated by mathematics, geometry and the “art” of war. If anyone would bring the Military Revolution to Africa it would be Mendes de Vasconcelos and his successors.<sup>27</sup>

Central Africa had its own art of war when Mendes de Vasconcelos brought his refined system of the Military Revolution to Angola. The two primary kingdoms of the area, Kongo and Ndongo fought as infantry armies. There were no indigenous horses in Angola, and the Portuguese rapidly discovered that imported horses died quickly and were rarely able to conduct cavalry operations beyond reconnaissance. So, armies were composed primarily of two components: the first a professional component who were skilled in fighting hand in hand with battle axe and sword. In Kongo these soldiers, called *adagueiros* (shield men) carried a large shield and fought behind it in loosely organized formations that allowed the soldiers to duck, dodge and fence with their opponents. In Mbundu, the elite soldiers carried no defensive weapons at all, and simply employed the same tactics of ducking and dodging in loose formations as in Kongo.

The second component was composed of archers who flanked the professional soldiers. They were recruited in masse from the peasantry and who generally fled after engaging their opponent for a time with arrow strikes. In a large army of some 20,000 the vast majority would be archers, and the professional core rarely exceeding one or two thousand.

Upon arrival in Angola in 1617, Mendes de Vasconcelos began instituting complex geometrical formations of the kind he illustrated in his book. But the local field commanders would not have it, and loosened up Mendes de Vasconcelos’ geometrical formations and called back to military tactics that had been in use in Angola since the arrival of the Portuguese forces there in 1575. In fact, it was ultimately not any organization or reorganization of Portuguese forces (or their numerous allies) that made the Mendes de Vasconcelos Portugal’s most

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*Atlantic Creoles and the Foundation of the Americas, 1585-1665* (Cambridge, 2007), pp. 49-236.

27 Luis Mendes de Vasconcelos, *Arte militar* (Lisbon, 1612).

successful commander, it was his decision to make a wholesale recruitment of the Imbangala, mercenary fighters from the south beyond Angola's borders that broke the stalemate in Angola and led to Mendes de Vasconcelos' victories.

These Imbangala, deployed in large numbers greatly upset the balance of military power in favor of Portugal. The Imbangala were, as far as can be told, former armies that had fought in the southern part of Angola in the sixteenth century. The Imbangala's success, however, does not seem to have relied in any specific military innovation in tactics or organization. Imbangala bands formed and grew by seizing young males, older children or teenagers, and then indoctrinating them into the band by psychological means, often involved breaking social norms, of which the most terrible was cannibalism. It was the reputation for cannibalism and their willingness to carry it out that made them feared. In every other way, they fought more or less as the armies of Kongo and Ndongo did.

However, the Imbangala impact quickly diminished, at least as far as the Portuguese were concerned. The Imbangala leaders were highly opportunistic and soon began pillaging far and wide, including areas under Portuguese vassalage and control. Within a few years, the largest of these bands, that led by Kasanje, was out of control and had occupied the central portions of Ndongo. In 1622, the Ndongo princess Njinga Mbande negotiated a treaty with the new Portuguese governor, João Correia de Sousa, that included a promise to eliminate Kasanje, now a menace to both sides.

The Imbangala turned out to be not so much better than any other armed force once the shock of their terroristic tactics wore off. When Correia de Sousa decided he would attempt to repeat the successes that Mendes de Vasconcelos had against Ndongo against Kongo in 1622-23 his invasion was an abject failure. The Portuguese army with its Imbangala component was defeated and fled with heavy losses, Kongo closed its borders, and Kongo's army invaded northern Angola, reclaiming vassals who had once gone over to Portugal.

In all this period, however, the Portuguese did have a contribution to make. Even before Mendes de Vasconcelos sought to introduce the formal elements of the Military Revolution, Portuguese carved out a specific role for them as swordsmen and musketeers. Typically, Portuguese soldiers (who often were from the colony and frequently not biologically Portuguese) formed a tight square in the center of their formation, with artillery on the flanks, and more traditional Mbundu fighters around them, with the usual archers on the farther flanks. Allied Imbangala units were then held in reserve in the rear of the formation, which followed an older three component (center and flanking battalions)



system that all the African armies also employed (with tactical variations, of course). The battle was decided when the attacking units took on the central core, if the Portuguese swordsmen held out as they did against Kongo at Mbwi-la in 1665, the Portuguese claimed victory; if it did not, as at Ngoleme in 1643 when they suffered heavy losses at the hands of Njinga, sometimes close to complete annihilation.

Over the course of the early eighteenth century, however, warfare changed in Angola, primarily in the wider diffusion of firearms among all the forces, at the expense of the bow, and hand to hand fighting became less a skill of the elite trained soldier. However, in spite of the continued influx of military figures who knew of the various manifestations of the Military Revolution, warfare, whether conducted by African or by European generals, followed its own course.

There is remarkably little written on military affairs from the end of Njinga's war and the later eighteenth century, wars are noted of course, but details of operations are generally not helpful. However, with the onset of the Pombaline period (1755-1779) in Portugal, the eighteenth century vision of the Military Revolution reappeared along with detailed account of operations of the colonial army and its African foes.

As in the better-known Bourbon Reforms in Spain and France, the Pombaline ones introduced new Enlightenment concepts to government, including military affairs, increasing the interest in scientific study of warfare. As part of the reforms in the colonies, Pombaline adherents were selected to govern Angola, and an ambitious and scarcely successful plan to Lusitanize military leadership in Africa. While it did not transform warfare, it did at least produce descriptions (or denunciations) of the way war was conducted in Angola, written from the new perspective.

Probably the most important of these writers was Elias Alexandre da Silva Corrêa whose history of Angola included lengthy accounts of wars fought in the 1770s through the 1790s.

In recounting at length how armies were recruited, for example, Silva Corrêa noted that all included a small cavalry force and a small regular infantry force, surrounded by forces recruited from subject African leaders, of various historical types—Jagas, Kilambas, Empacaceiros or in general light infantry.<sup>28</sup> These troops included a small number of field pieces as well. However, he also made it clear that in terms of tactical deployment the cavalry had little role outside

28 Silva Corrêa, *Historia de Angola* 2: 52.

of reconnaissance while believing that a force of 200 would guarantee complete victories, the best number that could be raised was between 10 and 20. He believed that Africans were terrified of cavalry, but also that there were never enough horsemen to turn that terror into flight.<sup>29</sup> Similarly he noted that the regular troops were the only ones that engaged in volley fire as would be routine in any European army, but that they never undertook to do this in battle.

Silva Corrêa describes a typical army formation and typical battle, drawn primarily from his experience of warfare in the region around the colony of Angola, rather than in the similar warfare launched in the south, around the sub-province of Benguela including the fort of Caconda quite far in the interior. Battle involved the armed forces attacking each other in small units, dozens or more, each marked by a flag and perhaps have some hundreds of men. They were dispersed and engaged in no kind of organized fire. Indeed, dispersion meant that they were not especially vulnerable to either mass musket fire nor to artillery. While Silva Corrêa believed that both musketeer volleys and artillery frightened them, he also admitted that it was not practiced or was done on too small a scale to be effective. Instead of these companies of soldiers fighting in formation and presumably using volley fire as one would expect in Europe they advanced in a cacophony of music and “the little flags flutter, and the soldiers make twisted laps, and quick movements. The crowd runs, stops, divides, invests when it meets, and goes back according to their ideas of the maneuver; and purposes of their intention.” Their larger formation might be a semi-circle, or a half moon, and “they turn in a circle, bend down, raise one arm, bend one leg,” and so on, but then “he fires his weapon: he shoots an arrow; and unloads its blows without giving time to be the target of some shot because of his immobility.”<sup>30</sup>

This particular type of movement, half dance, half martial art with a missile weapon was called *sangamento*, from the Kikongo word for dance but with the specific meaning of a mode of fighting. Since the formations were not dense or immobile, since the whole body of formations moved up and down, into range and out of range, volley fire made no sense, indeed, Silva Corrêa observed that the troops of the Portuguese army imitated it themselves in every way. He thought that the “discipline that” regular troops used “in their respective squares (never practiced in Campaign action) could overwhelm the forces of each of the individual enemies” intimidating them while “animating ours,” but

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29 Silva Corrêa, *Historia de Angola*, 2: 57.

30 Silva Corrêa, *Historia de Angola* 2: 56-57.

it was more psychologically than physically effective. Recalling Luis Mendes de Vasconcellos' "disastrous" attempt to install an earlier version of the Military Revolution in 1618, Silva Corrêa contended that "this established, disorganized, and confusing tactic has the same ends, which are those of Frederick the Great of Prussia."<sup>31</sup>

Silva Correa's notes on the detailed diary of a campaign in southern Kongo conducted by the celebrated Portuguese commander Pinheiro de Lacerda in 1793, show further details in the way African armies fought. Pinheiro de Lacerda's campaign marched from Mosul on the Atlantic coast inland as far as the Portuguese fort at Embaca. Part of the function was intimidation of the local population (and of course the capture of slaves) but also to (hopefully) slow down the "smuggling" of slaves northward to French, English and Dutch ships reaching the northern ports of Loango, Cabinda and Malembo.

The march of the army, which destroyed many villages and displaced thousands of people (while losing almost its entire command through death, injury or desertion) fought 27 engagements (called combats) along the way or while stationed at Encoge, some of short duration or involved on a small segment of the army, other much more extensive pitched battles.<sup>32</sup> While many of these engagements fit quite well into the model described by Silva Corrêa, Pinheiro de Lacerda's own diary of his attack on Musulu, "The way they invest in their battles is en masse, with different figures: sometimes in a semicircle, or half moon; and others in columns of great depth at 15, and 20 in front, and others sometimes in irregular bodies scattered in the manner of our infantry platoons."<sup>33</sup>

While Silva Corrêa described actions as if they were all extended skirmishes of constantly moving small units, that is, by platoons, it is clear that this was not only mode of fighting. Pinheiro de Lacerda's note of deep columns with a relatively narrow front, for example, were probably used to break formations by concentrating firepower, as he noted they fired continuously, similar to "fogo de alegria" a parade movement in which successive ranks fire sequentially as a means of maintaining continuous fire. It might be considered an equivalent to the countermarch in Europe in that it allows continuous firing and also time to reload. From the diary it seems though that such firing was accompanied by

31 Silva Corrêa, *Historia de Angola* 2: 57

32 Silva Corrêa, *Historia de Angola* 2: 179-229.

33 "Noticia da campanha e pais de Mosul, que conquistou Sargento Mor Paulo Martins de Pinheiro de Lacerda no ano 1790 ate o principio de 1791," *Annaes Maritimos e Coloniais* 6 (1846): 131-132.

rapid advances and retreats. Soldiers were “as quick to rush, as they are to flee when their party deteriorates; so that running on foot, not even horses can catch them.” In cavalry-poor Angola, ten or even twenty horsemen were unlikely to do too much damage to rapidly fleeing and dispersing infantry as a serious body (Silva Corrêa thought 200 would be enough) could.

While platoon action with occasional concentrations into larger units could imply that the idea of a constant skirmish, the fact was that all the soldiers carried swords and shields, and when the situation warranted it, would close to fight with “*arma blanca*.”<sup>34</sup> In such a situation one would expect bayonets as in Europe, but the sword and shield combination seems to have stood the test in Angola, neither the African nor the Portuguese forces used the bayonet.

Perhaps the most striking part of Central African warfare, and the one place where they seem to have fit into the pattern of the Military Revolution with in fortification. Silva Corrêa, using Pinheiro de Lacerda’s diary, noted the fortification of Kina, a Kongolese Duchy on the border of Angola which he judged it “incredible in view of the ignorance of the blacks, the fortification that they built in this place: nature has given them a defense in many places, independent of human efforts which his art extends for the sake of the safety of his rest: great cliffs, which were as flanking bulwarks & flanked by musket fire: curving paths, hidden roads, & barricades, & a Labyrinth of pine trees opposite the main Banza.”<sup>35</sup>

Elsewhere, in the central highlands of Angola, the Kingdom of Mbailundu, attacked by a large Portuguese army in 1775, “greater fortifications were found than imagined ...I saw it in very well delineated guipacas, as well as in bastions, ditches and trenches, as in the covered roads with which they defended themselves from all kinds of shots, and through them they went to fetch you all. necessary for its subsistence.”<sup>36</sup> The “guipaca” or *kipaka*, was a specifically African fortification, composed on staked trees that were planted living and grew to form a green wood mass that was virtually impenetrable to artillery.<sup>37</sup> Portuguese troops attacking them in the war against Nsoso in 1766 used heated cannon balls to set them on fire.<sup>38</sup>

34 “Notícia da campanha,” pp. 130-131.

35 Silva Corrêa, *Historia de Angola* 2: 205.

36 António de Lemcastro, 1 July 1776, in *Annaes de Conselho do Ultramar; parte não oficial*, series 1 (1858): 520-21

37 A brief description is given in Silva Corrêa, *Historia de Angola*, p. 59.

38 Arquivo Histórico Ultramarino, Angola, Caixa 45, document 50, Inocencio de Souza Coutinho to Francisco Xavier Furtado, 4 March 1766.

Of course, these fortifications were primarily intended against casualties caused by the fire of muskets rather than artillery, which was really only used by the Portuguese and not by African powers. While they may have resembled the various geometric defensive strategies of the engineers of the Military Revolution, they were more adapted to the nature of African warfare.

### *Africa versus Europe: The Haitian Revolution*

Ironically perhaps the greatest contest between the Military Revolution and African armies took place in the Americas in the Haitian Revolution.<sup>39</sup> The fighters-to-be in the revolution were largely drawn from the Dahomey region and Angola, especially Kongo, who made up as much as half or even two thirds of the areas most actively involved in the Revolution. Indeed, the substantial presence of Kongolese in the Revolutionary wars led to the soldiers who fought in African style bands being universally dubbed “Congos.”<sup>40</sup> The Kongolese group had experienced the Portuguese-Angolan version of the Military Revolution, and had met head on the highly trained and professional Portuguese officers who described the art of war in Angola.

As might be expected, the rebelling slaves drew largely on the African military culture of their respective homelands, they fought in well-organized but relatively small platoons; they practiced successive fire as described in Musulu, they advanced and retreated rapidly, firing at will and loosely coordinated, as in virtually all the Guinea Coast nations did. Many of the early battles were won using these tactics, and led to the gradual evolution of the countryside of northern Saint Domingue into fortified camps from which armed bands ventured forth to fight.<sup>41</sup>

39 The most important documentation for the French military activity is Pamphile Lacroix, *Mémoires pour servir à l'histoire de la révolution de Saint-Domingue* (2 vols, Paris, 1819), vol. 2 which outlines military activity in a series of reports of operations in which the author participated; a similar but more general overview comes from Paul Rousseau, ed. *Lettres du Général Leclerc, commandant en chef de l'armée de Saint Domingue en 1802* (Paris, 1937) also in a series of reports. An essential text is vol. 2 of Thomas Madiou's *Histoire d'Haïti* (8 vols, various publishers, 1842-1978). This is a work by a historian who rarely cited his sources, but clearly relied heavily on Lacroix and Leclerc for French operations, but also on local sources gathered in the mid to late 1830s, some oral, others written, that are no longer extant and has a level of detail not found in the French sources.

40 Madiou, *Histoire* 2: 322 (and footnote).

41 For an overview of the military aspects of the Haitian Revolution as it pertains to the African background, John Thornton, “African Soldiers in the Haitian Revolution,” *Journal of Caribbean History* 25 no. 1 (1993): 58-80.



But it was not just African tactics that took over. Much of the early leadership, the conspirators who organized the 1791 uprising in particular, were not African born and trained. They had come from the leadership community among the slaves, the *commandeurs d'atelier*, or slave drivers, and they were not easily able to command the bands that formed under largely ethnically composed base of military commanders from Africa. And so, they turned to European models. Spanish instructors, who saw the revolution as a wonderful opportunity to take advantage of France's discomfiture from the metropolitan revolution, offered military training in Military Revolution arts to the elite of Saint Domingue's slaves, and soon they formed their own regiments and demi-brigades who trained, marched and fought as Europeans did.

From this start there developed an interesting cooperation between the leaders of bands, fighting as in Africa, and the leaders of the demi-brigades, commanded by officers trained in European warfare. Because other European powers saw advantages in the revolution and hoped to take this wealthiest of all Caribbean colonies for themselves, the revolutionaries fought in a variety of alliances—initially with Spain's attempt to arm the revolution in its favor who formed the first European style military units. Then they allied with France as it sought to use the revolution to defeat an English invasion in 1793, which was repelled. Finally, in 1802, the French sought to occupy the colony, ostensibly to meet a new English challenge, but actually to take control back from the revolutionaries and restore the plantation economy. During the course of the revolution, armies from Europe, bands and locally organized French style demi-brigades at times cooperated with each other, while at other times they fought each other.<sup>42</sup>

The greatest test of the Military Revolution can be observed in this final campaign to re-take Saint Domingue sent by Napoleon in 1802. Initially commanded by Charles Leclerc, Napoleon's brother in law and then by Donatien-Marie-Joseph de Vimeur, vicomte de Rochambeau, its forces were drawn from the regular French army and included veterans of the war on the Rhine; they were equal in quality to the forces that Napoleon would lead in his most successful campaigns of 1805 and beyond, in personnel, training and equipment.

At the time of Leclerc's arrival, the country was in an incipient civil war, created by the decision of Toussaint Louverture and the senior leadership to re-instate forced labor on plantations, now owned by the new revolutionary leaders or by French planters who had remained on the island. Discontent over the pro-

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42 John Thornton, "'I am the Subject of the King of Kongo': African Political Ideology and the Haitian Revolution," *Journal of World History* 4 (1993): 204-206.

posed new labor regime, which bore too close a relationship to slave labor, led to a substantial revolt led by Moïse, Toussaint's own brother. Moïse's execution led to an on-going low-key war matched the band leaders, the champions of land redistribution and the abandoning of forced labor, against the formal leaders who wanted to get the bands under their control and put their members back to plantation labor.

Leclerc, following instructions from Paris, was officially to proclaim the former colony's reintegration into France and he expected that the colonial demi-brigades that the Revolutionary leaders had organized would join his army. Toussaint, along with other senior revolutionary leaders, Jean-Jacques Dessalines and Henri Christophe, however, distrusted Leclerc's sincerity and refused to join; but a number of other demi-brigades did accept integration into the new colonial army. Leclerc then found himself obliged to use his French forces and the loyal colonial demi-brigades to attack and bring Toussaint and his associates to heel.

Band leaders never accepted the French offers of integration, and also did not trust Toussaint's group and so they sometimes joined Toussaint (as the French were perceived as worse than he was) or sometimes resisted everyone.

In the early phases of the war Leclerc began a broad offensive intended to force Toussaint and his associates to surrender. In these initial battles, many bands, who the French often described as "armed cultivators" rather than soldiers, joined Toussaint and those portions of the colonial army that remained loyal to him, and fought against the French and their allied colonial demi-brigades. Both French commanders and Toussaint's called such units "bands" a term which belies their permanence, their organization, and systematic tactical doctrine, very much like those deployed all over West and Central Africa.

They were typically called by the names of their commanders, many of whom had long records of service strongly suggesting that they had a continuous organizational existence on the island. Sans-Souci, for example, was identified among the bands opposing French rule in 1791, and was still a prominent leader in 1802.<sup>43</sup>

In the campaign that followed, Toussaint managed to fight the invaders and their allies to a standstill. The tactics of the original revolution were very much in play, Leclerc generally described his opponents' armed forces as including

43 Names of band leaders are especially found in the correspondence from the earlier years of the revolution, found in Archives Nationales de France (ANF) D-XXV, 23. For leaders in 1802 see particularly Madiou, *Histoire* 2: 16, 226, 234, 322, among others.

both regular troops and “armed cultivators”.<sup>44</sup> He reported that the revolutionary Haitian general Maurepas’ forces around Port de Paix had “two thousand troops of the line and two thousand cultivators,” and later described Toussaint as having “four thousand colonial troops and a considerable number of armed cultivators.”<sup>45</sup> French general Pamphile Lacroix observed that Christophe, defending Marmelade against him, had about 2000 troops, half colonial troops and half cultivators.<sup>46</sup> Lacroix noted that Petion and Clervaux, commanding colonial troops, connected with “cultivators” to storm fort Pierre-Michel.<sup>47</sup>

Descriptions of engagements with the bands show tactics typical of Africa. French General Debelle told newly arrived French troops, that they were not fighting in “those rapid formations in tight columns to approach the enemy at a charge, bayonets aloft, singing la Marseillaise...war was nothing more than a wildfire, like that of hunters shooting at hares hidden in the bushes. It was rare that the enemy was seen and could be joined. But his unforeseen, invisible blows were none the less assured in the ambushes he set for us, and into which we constantly fell.”<sup>48</sup> Leclerc thought of his advance as a “war of Arabs” noting that they were harassed from the woods.<sup>49</sup> A soldier in Debelle’s division saw the effect to constant ambushes and harassing fire as marching, “numerous bands passing through the depths of the ravines between our columns, slipped into the rear of our troops,” at times engaging them on all sides.<sup>50</sup> General Hardy, marching inland at the command of his column of troops found himself completely surrounded and constantly attacked by bands, commanded by Toussaint himself.<sup>51</sup>

But if these attacks, of the sort of attack and retreat mode of fighting prevailed among bands, the bands were capable of taking on regular soldiers; San-Souci a band leader routed an attack of elite grenadiers, and also an attack

44 Rousseau, *Lettres*, pp. 104; 131; 230. After the general rebellion, he simply grouped his opponents as “insurgents.”

45 Rousseau, *Lettres*, p. 104; 131.

46 Lacroix, *Memoirs*, p. 131.

47 Lacroix, *Mémoires*, p. 235.

48 Moreau de Jonnès, *Aventures*, p. 131.

49 Rousseau, ed *Lettres*, p. 102. It’s an Arab war here: hardly have we passed that the blacks occupy the woods near the road and cut communications. If I manage to beat Toussaint well, I think there will be a great desertion in his army..

50 M. A. Moreau de Jonnès, *Aventures de guerre au temps de la République et du Consulat* (2 vols., Paris, 1858), pp. 133; 135-137.

51 Hardy de Perini, ed. *Correspondance intime du Général Jean Hardy...* (Paris, 1901), p. 269.

of Christophe with his own regular soldiers.<sup>52</sup> Moreover, Toussaint had his own demi-brigades who fought in European style, and even band soldiers had taken up the bayonet, something that was absent in African warfare. Lacroix noted that when General Hardy took Coup à-l'Inde, he refused quarter to band soldiers because they had blood stains of French soldiers on their bayonets.<sup>53</sup> Of course, the regular demi-brigades of the colonial troops engaged in a fierce battle with "arme blanche" following a French bayonet charge, eventually repelling the French, whose retreat was covered by Haitian troops still loyal to France, as the Haitian regulars also deployed bayonets.<sup>54</sup>

In this way the Revolutionary army was something of combined arms operations that optimized their strengths. The success of the Revolutionary army in the defense of Crête-à-Pierrot showed how effective those combined operations could be.

The war changed, however, when Leclerc began operating in accordance with his instructions, which had been from the beginning to offer to integrate the colonial army into the French army whose ostensible purpose was to defend the colony, and to maintain that all officers and generals would retain their rank. But when the time was ripe, he was to effectively dismantle the colonial troops, remove all their officers and potentially ship them off the island, then in due time, to reinstate slavery.<sup>55</sup>

When Leclerc executed the next part of Napoleon's plan for Saint Domingue, which was to disarm the colonial army and remove its leadership, after the English threat was diminished, and when slavery was restored in Guadeloupe, the ground shifted. A crisis point was reached when he arrested and deported Toussaint. The colonial brigades melted away to reform under the leadership of Toussaint's successor Dessalines, and now fighting with both groups, matched the Military Revolution against combined African and European style units.

The war continued, but continued tensions arising from the social origins of the Revolutionary army constantly hampered its operations. Dessalines had been ruthless in attacking bands and it was hard to forget old scores, moreover

52 Madiou, *Histoire* 2: 323.

53 Lacroix, *Mémoires*, p. 150.

54 Madiou, *Histoire*, 2: 177-78, 179; Lacroix, *Mémoires*, p. 127 contains none of the details offered by Madiou.

55 Political maneuvering and betrayal of this period are most recently discussed by Phillipe Girard, *The Slaves Who Defeated Napoléon: Toussaint L'Ouverture and the War of Haitian Independence, 1801-1804* (Tuscaloosa, 2011)

band leaders were still aware that he had been part of Toussaints' restoration of forced labor.

In the end, the French found it harder and harder to find loyal allies, though in the south where landholding, slavery and racial combination still allowed considerable Haitian participation in his army Leclerc, and following his death Rochambeau, found support. Attempts to continue the war into the interior failed, and the Revolutionary forces ultimately drove the French and their allies into the coastal towns. Lacking artillery, they mounted many unsuccessful attacks on the entrenched defenders, and even when the British navy became involved on the French side, the cities manage to hold.

Defeats in the interior and the tremendous cost of maintaining an army that suffered very high death rates, more from intermittent outbreaks of Yellow Fever than from gunfire or bayonet, ultimately forced the French to abandon the colony. While it is not entirely a challenge to the Military Revolution's impact on war, the Haitian Revolution showed that African arts of war had a place in battlefields outside of Europe.



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## Conclusions

By JEREMY BLACK

As can be seen from this volume, the topic brings forward a mass of important issues and valuable scholarship. It also provides a sense of an unfixed subject, of a range of conceptualisation and methodology, and of a multiplicity of contexts. Given this, it is pertinent at this point to consider conclusions, rather than to assert a conclusion. In particular, there is no convenient general account, whether or not in terms of a military revolution, that can be readily used to employ in the discussion of other topics such as social change or state development.

That later scholarship questions, if not takes apart, the work produced by earlier contributions does not mean that the latter was without value nor, indeed, in contrast, today still has something to offer. In contrast, this process does mean that these earlier contributions, including the classic works on the subject, should not be cited without major qualification. Indeed, to use them oblivious to subsequent correction is mistaken and deeply flawed methodologically. As a result, it is no longer pertinent to regard the work of Roberts and Parker as more than primarily of historiographical concern. This is not surprising given both the quantity, quality and range of work that has appeared in the field over the last three decades, and the inherent flaws in the thesis from the outset, flaws that have been further clarified by this work.

Aside from the specific weaknesses of the original thesis, and, in particular, the wish to project studies of individual early-modern forces into a world-changing thesis, and thus expecting them to bear excessive weight, there is the particular problem created by the dated preference for an account of world history that underplays the autonomy of non-Western developments in order to argue the case for a world that was rapidly brought under Western dominance. From the very different perspectives of China or Persia or Africa, that argument never meant very much in the period of the supposed early-modern military revolution, and that situation has become more apparent as world history is rescued, if that is not too-strong a word, from the grasp of Western intellectual priorities and ideas, not least both misplaced praise of the West or, it equivalent in opposition, and unthinking criticism. The latter draws in particular on an account of

military history that exaggerates Western capability and effectiveness, and thus is used to shift attention from local co-operation with Western purposes, both military and economic, notably the sale of slaves.

If scepticism, notably now, is the case when looking back, historiography, while interesting and instructive, does not answer the question of how best to conceptualise the subject today nor what directions are particularly necessary for future work. These are both highly individual in discussion, and readers should consider the following in light of their own assessment both of the subject and of what they have read hitherto in this collection. The reader should always be an active participant in the discussion. This is commonly ignored by most writers, but in practice shapes the process as the role of reader perception is a product not only of authorial action but also of the assumptions and intelligence brought to the equation by readers. These are scarcely consistent across the world or time; instead reflecting in part particular cultures or paradigms and patterns of assumptions in particular countries and periods. That element should be integrated into the historiography, alongside that of authorial activity as the product of the same factors. Military history is not divorced from this process. It is not somehow only a product of a can-do approach to writing about fighting.

Certainly, there is no intention here to propound a grand theory in the perspective of which empirical details are to be deployed and, variously, played up or underplayed. That point deserves attention because the manner of discussion is an important aspect of the debate, not least the danger of argument by assertion. The thesis of the early-modern military revolution unfortunately displays much of that methodological fallacy.

So also with the statement that war made the state and the state war. In reality, it was often the case empirically, as should also have been understood intuitively, that conflict weakened states. Furthermore, governmental limitations affected the possibilities of effective warring and continued to do so. There were and remain many other tasks for the state and explanations for its development, not least ensuring ideological conformity, social systems, economic benefits, and welfare provisions. To assume that war is necessarily the key can be misleading.

Fitness for purpose, it is suggested here, is a useful concept for considering military history, one that is culturally-framed as well as task-specific, each of which are key criteria. This concept focuses on context and task, rather than suggesting that the means of conflict, whether weapons, formations, platforms or doctrine, are crucial in terms of assessing military purpose, rationale and

reasons for change. The means to the end do not become the end; and, indeed, the focus on them in much of the literature has been highly misleading as well as self-serving. As additional points that do not exhaust the subject, capability is not a universal measure of effectiveness, the latter of which, in addition, is the product of many factors. Moreover, effectiveness in battle does not equate with effectiveness across the range of conflict, notably with small war, and conflict is only one aspect of coercion and force.

This bigger picture approach of conflict as only one aspect of coercion and force thereby connects with a different aspect of change and historical development. How far is the latter to be searched for, and indeed found, in terms of assessments of states and societies? In this context, what is the scholar supposed to be looking for, and, in addition, across which chronological and geographical ranges?

Again, there will be no particular agreement on these points, and not least because chronological and geographical units are in part cultural expressions and open to debate. If this point is obviously true for modernity or Asia, early-modernity or Europe, and so on, it is no less the case for more specific units. For example, the sixteenth century can be used as a chronological unit, as it were, chronological geography, in many languages. Yet, that does not make the sixteenth century more valuable as a descriptive or explanatory term than say 1520-1620 or 1453-1600, and so on. The units chosen and deployed are also important in terms of the assumptions and connections habitually made. This is particularly so with the flawed idea of turning points, an idea that is not only misleading conceptually but also in particulars, as in the preference for say 1453 over 1450, or 1939 over 1937.

In a discussion of history, the standard emphasis is on change through time as that provides the basis and context for question, narrative and explanation. Yet, that very approach is also limited, because it necessarily leads to a focus on change, therefore underplaying continuity. As a separate issue, this focus, and the related change versus continuity question, may well take that aspect of past (and present and future) and leave it overly significant as a topic for discussion and therefore analysis. Moreover, in an aspect of a somewhat circular process, this analysis then helps set the chronological units in, and across, which discussion is debated, and the analysis thereby apparently validated.

The suggestion here is that the standard approach was and is pushed overly hard, indeed treated as normative. Instead, it should be possible to write about warfare without making the temporal dimension and the question of change

central in analysis, or indeed primary in discussion. This indeed would be in line with empirical aspects of the subject as well as the cultural facets of societies in which this question was not to the fore.

If change was not a prime topic for debate, then neither perforce was continuity. Instead, there was a timelessness that pervaded values and therefore purposes and goals. To fight for honour and reputation, to display valour, was to correspond with what would later be seen as anthropological intentions. The need, for leaders, officers, and men, to face the killing ground ensured that anthropological and psychological factors were to the fore in conflict, training and the validation of war.

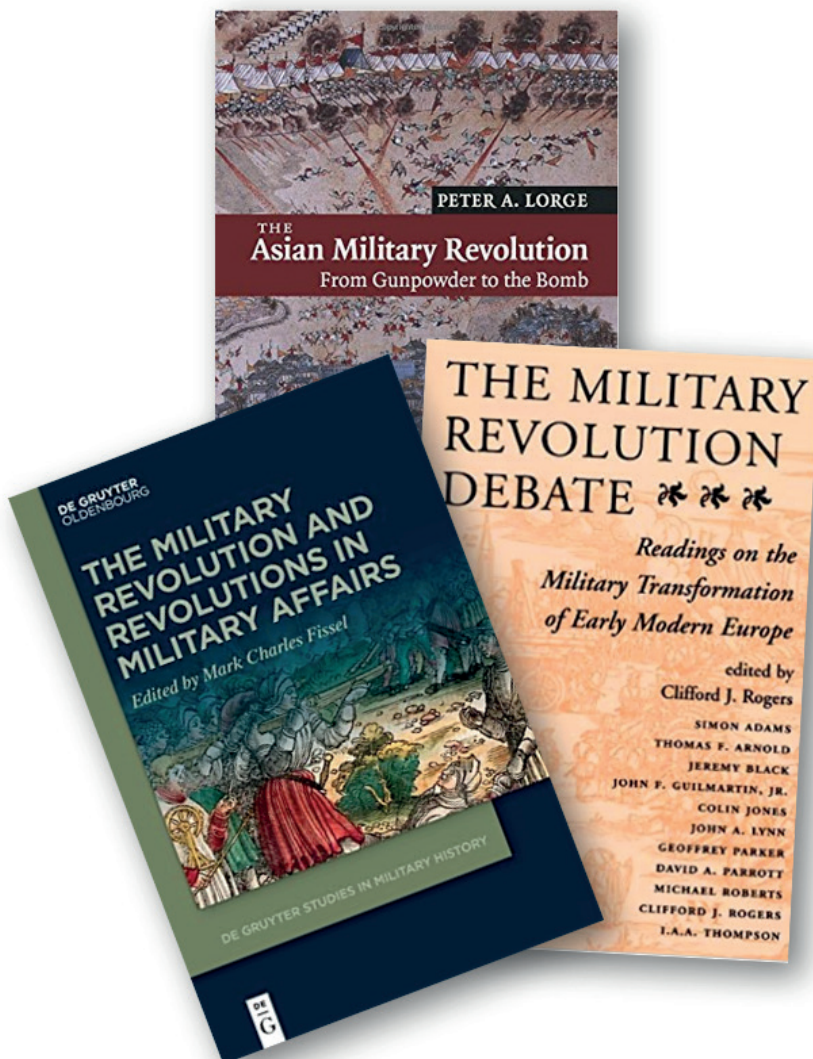
There is precious little sign of transformation in these factors in the period under discussion in this collection. Possibly, the situation is in part a reminder of paths not taken. There were radically different societies in conception then, for example the Anabaptists of Münster suppressed in 1535, or, indeed, those represented by the peasants' risings of a decade earlier and of other occasions, but these prospects did not come to fruition. The values of societies continued to be those of bellicosity, manliness through militarism, a non-consensual approach to military service, and related points, all located with reference to a strongly entrenched social hierarchy.

While masculinity was understood in those terms, much that changed were really simply means to an end. It is not helpful to move these means to the fore, and not least if their selection reflects a problematic account of military proficiency. The latter is the case both in the abstract and also in terms of the particular factors held to have determined specific battle, campaigns and wars.

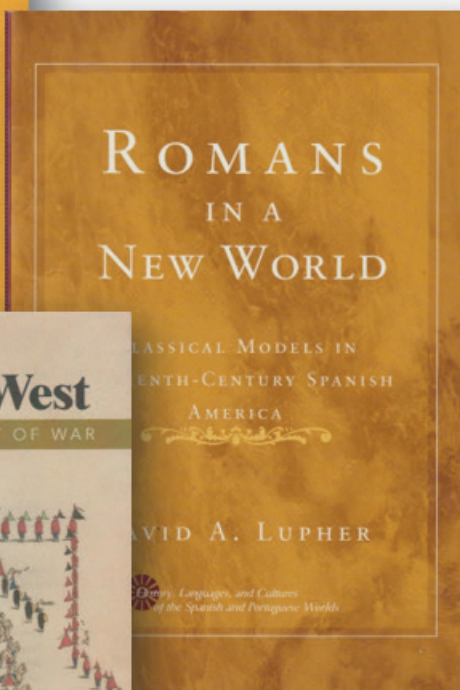
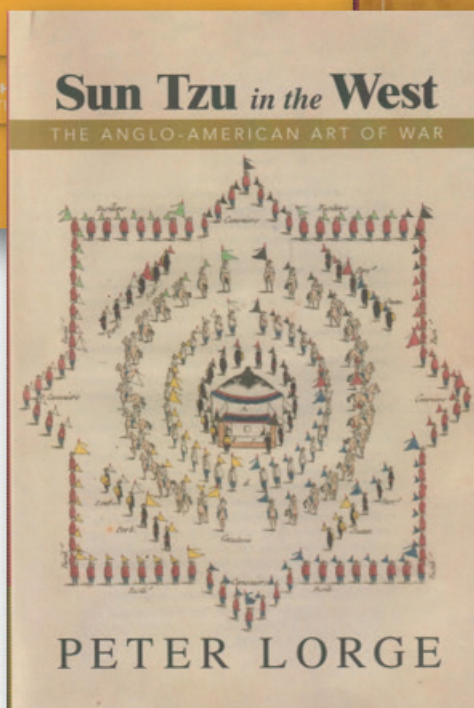
At the same time, commanders did change weaponry, organisation, doctrine and much else. Yet, in doing so, there was no necessary consistency in developments. That was the case if the particular spheres of the past are considered, as in this collection. It is also apparent if the conceptual perspective of present-day circumstances are considered, because they show that best practice varies greatly, and with reference not only to implementation in terms of the circumstances posed by particular tasks, but also with reference to the specific distinctive factors that can be summarised in terms of military culture.

That factor can be seen in this collection. It is one that draws on social and ideological factors, environmental opportunities, geographical constraints, and the perception of the past. To leave out the role of military culture and the related differences in cultures, and, instead, to focus on technology is to fail to understand the warfare of that period or indeed any period. The last raises the

question whether the misleading nature of the thesis of the early-modern European military revolution has implications for the subsequent period, however chronologically defined, and, more generally, for military history as a whole. The former is pertinent because an over-emphasis on European capability and achievement by 1800 has implications for the reading of the nineteenth century, both in terms of what happened and with reference to how it should be assessed both in its own terms and with reference to military history as a whole. The significance of this volume therefore emerges clearly.









# GLOBAL MILITARY TRANSFORMATIONS: CHANGE AND CONTINUITY, 1450-1800

**T**he supposed Military Revolution of the early modern period is the most important instance of a key concept in military history, that of military revolutions. This collection takes a critical look at the example and thereby asks broader questions about the nature of military revolutions and indeed about the conceptualisation, methodologies and historiography of military history as a whole. The original thesis was Euro-only and its subsequent development was Westerncentric. This collection both reexamines the thesis in its European heartland, not least by drawing on important perspectives that were long underplayed, but also adds valuable African and Asian approaches. So also with chronological looks to the periods before and after.

**I**ntroduction and Conclusions by Jeremy Black. Chapters by Gabor Agoston, Helder Carvalhal, Mark Fissel, Alan Forrest, Virgilio Ilari, Alan James, Roger Lee de Jesus, Jürgen Luh, Timothy May, Stephen Morillo, Marco Mostarda, André Murteira, Pratyay Nath, Brian Sandberg, Vladimir Shirogorov, Christopher Storrs, Kenneth Swope, John K. Thornton

On the cover:

Japanese Armor (*Gusoku*) 18th century. “This cuirass and shoulder guards (*sode*) formed of large iron plates rather than traditional lamellae (small, narrow iron plates) reveal European influence and the concurrent introduction of firearms, which necessitated solid, bulletproof plates”. Metropolitan Museum of Art. Rogers Fund, 1906. Public Domain.



ISBN: 9788894698442