Introduction

THE MILITARY PATTERN OF THE CHINESE PAST

"China is a sleeping lion. When it wakes, the world will tremble."[1] These words, attributed to Napoleon, are quoted often these days, usually followed by the observation that the lion is now awake.[2] China's leaders promise that their country's rise will be "peaceful, pleasant, and civilized," but there is much trembling.[3] Napoleon's prophecy seems to be coming true.

Yet he made his prediction in 1816. Why did the lion take so long to wake? And why was it sleeping in the first place? China was once the wealthiest, most technologically advanced, most powerful country in the world. How did it lose its lead to the upstart countries of Western Europe? Or, to put it another way, how did the once marginal states of Europe surge to global power and predominance after 1500?

These are key questions of world history, and in recent years they've generated a flurry of answers, and much debate.[4] Nearly all of this literature focuses on economics.[5] So today we know a great deal more about Chinese and European wage levels, fertility rates, and agricultural productivity than we used to, but we still know relatively little about what Napoleon was really talking about: war. He made his famous prediction in response to a question from his Irish surgeon, who wondered whether it was a good idea for the British to attack China. No, Napoleon replied, because the Chinese, once roused, "would get artificers, and ship-builders, from France, and America, and even from London; they would build a fleet, and in the course of time, defeat you."[6] Eventually the British did attack China, and China did acquire artificers and advisors. Its subsequent path to modernization was longer than Napoleon would have expected, but throughout

the journey reformers were always focused on military matters. They still are.

This book examines the Great Divergence between China and the West by concentrating on warfare. It suggests that there is a military pattern to the Chinese past that can help us make sense of China's periods of strength, decline, and resurgence. But it doesn't focus on China alone. It's aim is to bring Asian and European military history into conversation, asking not just how China diverged from the West but also how the West diverged from East Asia.[7] Europe's is not the normalizing trajectory; each case illuminates the other.[8]

The unifying theme is gunpowder warfare. Historians have long studied gunpowder's revolutionary effects, but they've paid most attention to the West. Indeed, you've probably heard the saying, false but often repeated, that the Chinese invented gunpowder but didn't use it for war. This meme is still widely circulated, appearing in scholarly works, and even in China itself.[9] But in fact the Chinese and their neighbors explored gunpowder's many uses, military and civilian, for centuries before the technology passed to the West. These Asian origins are often glossed over, and most studies of gunpowder warfare focus on the early modern period (ca. 1500–1800).[10] This was, historians have argued, when the first gunpowder empires were born and when the "gunpowder revolution" and the "military revolution" helped transform Europe's feudal structures, laying the groundwork for Western global dominance.[11]

But the gunpowder age actually lasted a millennium, from the first use of gunpowder in warfare in the late 900s to its replacement by smokeless powder around 1900. Examining its full sweep can help us answer—or at least clarify—the question of the rise of the West and the "stagnation" of China.

One of the most enduring explanations for Europe's dynamism and China's supposed torpor is the "competitive state system" paradigm. Antagonism between European states, so the theory goes, exerted a selective pressure on European societies, driving them to improve their political, economic, and military structures. China, on the other hand, had a unified imperium, which impeded experimentation and led to stasis. This idea is as old as social science itself, going back to Montesquieu and animating the works of Karl Marx and Max Weber.[12] Today

it's nearly ubiquitous, found among authors as different as Jared Diamond, Immanuel Wallerstein, David Landes, and Geoffrey Parker.[13] China experts, too, rely on the model, suggesting that China, being a unified state, lacked the dynamism of a more competitive Europe, although some believe that lack of competition also conferred economic benefits.[14]

Of course, as any student of Chinese history knows, China's past is filled with war and interstate competition. Indeed, the very term "China" presupposes a unity that was absent for much of history.[15] The most famous period of division is the Warring States Period (475–221 BCE), which many scholars have explicitly compared to Europe's early modern era, arguing that both periods saw similar military and political developments.[16] For instance, the great Geoffrey Parker begins his book *The Military Revolution* with a discussion of the Chinese Warring States Period, arguing that in both that period and Europe's early modern period, constant warfare drove state centralization and innovation in military tactics, technology, organization, and logistics.[17]

Yet there were many other periods of warfare and interstate competition in China's long history, and scholars have tended to neglect those times and exaggerate China's imperial unity. The hypothesis of this book is that such periods are vital to understanding world history.

Consider the Late Imperial Age (1368–1911), a period during which China was supposedly unified and, according to many authors, stagnant. It's true that both the Ming (1368–1644) and Qing (1644 –1911) dynasties oversaw periods of great unity. Yet there were also periods of intense warfare, particularly around the dynastic transitions (1368 and 1644). This is no shock, but nonspecialists may be surprised to learn how long those transitions were, and how warlike. The transition from the Yuan dynasty (1279–1368) to the Ming dynasty lasted nearly a century, from around 1350, when statelets emerged and began fighting, through the bloody interstate wars of the famous "field of rivals" (1352–1368), through the violent campaigns of consolidation by the first Ming emperor (r. 1368–1398), through the bitter succession war that erupted after his death, through the reign of his bellicose son, the famous Yongle Emperor (r. 1402–1424), who launched huge expeditions into Vietnam and Mongolia, and, finally, through a period of intermittent warfare that ended only in 1449. In total the warfare around

the Ming dynastic transition lasted a century, from around 1350 to around 1450. The wars were frequent, intense, and of a scale far exceeding anything in Western Europe at the time, with armies of hundreds of thousands clashing throughout East Asia, armed with guns, bombs, grenades, and rockets.

The next dynastic transition was of similar length and intensity. Interdynastic warfare erupted in the 1610s and continued until 1683, when the last holdouts of the Ming dynasty finally fell to the Manchu Qing dynasty. Afterward, warfare continued into the early eighteenth century, when the famous Kangxi Emperor (r. 1661–1722) carried out campaigns of consolidation in Northern and Central Asia. In fact, this is a conservative periodization: intense warfare actually began around 1550 and included the Korean War of 1592 to 1598, the most destructive Sino-Japanese conflict before World War II. Scholar Sun Laichen has called the period 1550 to 1683 the most warlike in East Asia's history, pointing out that warfare extended well beyond China itself, engulfing all of Eastern Eurasia, including Southeast Asia.[18]

It's no surprise that dynastic transitions saw intense warfare, but the length of these periods is significant. They lasted generations. Of course not all this warfare was of the type that is considered to have contributed to European dynamism, that is, sustained interstate conflicts. Some scholars have argued that China engaged in too much of the wrong sort of warfare, focusing on defense against nomads and rebels rather than on external conquest, a preoccupation that supposedly sapped China of European-style dynamism.[19]

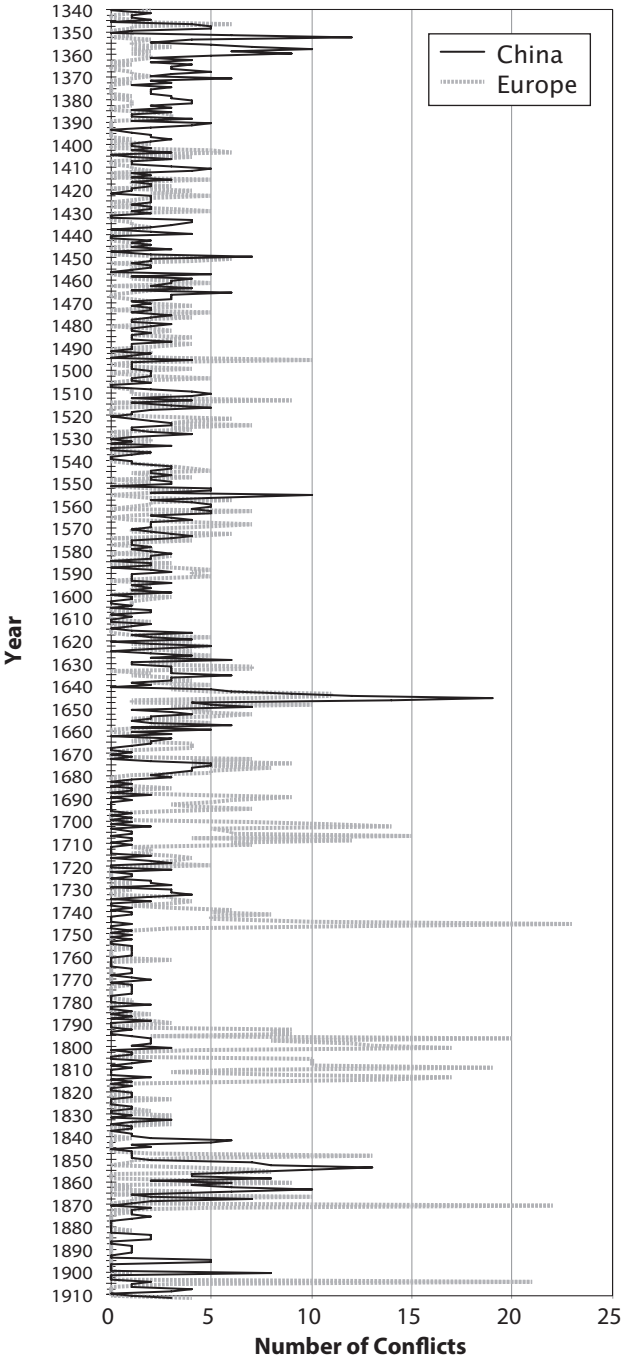
Yet these periods of warfare did indeed stimulate rapid and deep-seated military innovation. Napoleon well understood that a country, when challenged militarily, responds with innovation. Historians call this the "challenge-response dynamic."[20] During the intense wars of the Yuan-Ming transition, from 1350 to 1450, there were a lot of challenges and a lot of responses, and China's infantry forces became increasingly focused on firearms, which were used far more frequently and effectively than in Europe at the same time. In the early Ming period, policies prescribed that 10 percent of soldiers should be armed with guns; by the last third of the 1400s, the figure rose to 30 percent, a rate not seen in Europe until the mid-1500s.[21] Historians have labeled the Ming dynasty the world's first "Gunpowder Empire."[22]

It seems, however, that around 1450 the military pattern of the Chinese past diverged from that of Europe. For a guide to the chronology underlying this book, see Appendix 1: Timeline, p. 311. From 1450 until 1550, China engaged in fewer and less intense wars, and military innovation slowed. This happened to be a period when military innovation was speeding up in Europe, fueled by increasingly violent and large-scale warfare. By the 1480s, all types of European guns had become better, so much so that when Portuguese mariners brought them to China in the early 1500s, Chinese acknowledged their superiority and began copying them. We might call this period, from 1450 to 1550, the first divergence, or the little divergence.[23]

It didn't last. Starting in the 1550s, warfare increased throughout East Asia, and military innovation accelerated. Chinese, Japanese, and Koreans mastered the manufacture of European cannons and muskets, improving them and deploying them with advanced tactics, such as the famous musketry volley technique, which, as we'll see, was probably first used not in Europe or Japan or the Ottoman Empire, as scholars have suggested, but in China.[24] During this period of rapid innovation—1550 to 1700—East Asians maintained military parity with Western nations. Whenever trained military forces from East Asia met those of Europe, the former won decisively. There has been little study of such conflicts, but they suggest that the military balance was relatively even during the Age of Parity (1550–1700). Europeans did have advantages in deep-water naval warfare and fortress architecture, but East Asians fielded dynamic and effective forces, defeating European troops not just by superior numbers but also by means of excellent guns, effective logistics, strong leadership, and better (or at least equivalent) drill and cohesion. Nor was this parity limited to East Asia; it may have obtained through much of Asia.[25]

The Age of Parity, however, gave way to a Great Military Divergence, which became manifest during the Opium War of 1839 to 1842, when British forces consistently outfought the Qing. Why did China fall so far behind?

Partly, of course, the answer lies with Britain's industrialization, a process unprecedented in human history, but as we'll see, Britain's military advantage cannot be reduced to steamships and mass production alone. We must also recognize that the Qing dynasty had become



militarily stagnant. Why? A lack of practice. By the mid-eighteenth century, the Qing had succeeded in doing something that had eluded previous dynasties of China: it subdued the Mongols and Turks of Central and Northern Asia.[26] Since it had also cowed the Russians, the Qing no longer had to fear invasion from the north. Its sea borders were also secure, so China faced no serious external threats for several generations, from around 1760 until 1839. There were internal threats—rebellions and revolts—some of which were quite significant, but compared to earlier periods in China's history, this period was extraordinarily free of warfare. China's armies atrophied, and military innovation slowed.

The Great Qing Peace can be seen visually in Graph I.1, which charts the frequency of warfare in China and Western Europe between 1340 and 1911. Tabulating wars is a very difficult business, of course, and one must be cautious, but when corroborated with other sources, qualitative and quantitative, charts like this can help us make some significant observations.[27] (For more information on this and other datasets used in this book, see Appendix 2.)

The first thing to note is how similar Chinese and European patterns of warfare are for the period from 1350 through 1700. Although China's patterns show peaks around the dynastic transitions at 1368 and 1644, the entire period from 1350 to 1700 is nonetheless marked by frequent wars on both sides of Eurasia, with a relative lull in China between 1450 and 1550.

During the eighteenth and early nineteenth centuries, however, the patterns diverge markedly: Europe saw repeated bouts of intense warfare while China saw warfare fall to the lowest sustained levels in the series. This relative lull in warfare—which we can call the Great Qing Peace—stretched from the mid-eighteenth century to 1839, and it happens that Korea and Japan, too, saw few wars during this period. Experts in Qing history will rightly point out that this period saw significant armed conflicts, with particularly destructive ones during the

GRAPH I.1 Warfare by year in Western Europe and China.

The solid line represents China, the dotted line Europe. For more information on this graph, its dataset, and other corroborating data, as well as for caveats about their use, see Appendix 2. Data from Zhong guo jun shi shi bian xie zu, *Zhong guo li dai*, vol. 2; and Dupuy, *Encyclopedia of Military History*.

years on either side of 1800. Yet external wars were largely nonexistent, and records suggest that even armed rebellions were relatively less common during the Great Qing Peace than most other periods in China's history post-1200.

In contrast, although Europe saw longer periods of peace in the eighteenth century than in the seventeenth century, Europe's eighteenth-century warfare was becoming increasingly intense, culminating in the Revolutionary and Napoleonic Wars that convulsed the subcontinent at the turn of the nineteenth century. So it's no surprise that during the Great Qing Peace, military innovation slowed in China even as it accelerated in Europe, with the development of powerful new artillery, firearms, organizational structures, and tactics.

The period of the Great Military Divergence—from the mid-eighteenth through the early nineteenth century—also happens to be the period when Westerners acquired the image of China as stagnant, monolithic, and mired in its ways.[28] Charles Dickens had this to say after touring a Chinese ship: "thousands of years have passed away since the first Chinese junk was constructed on this model, and the last Chinese junk that was ever launched was none the better for that waste and desert of time."[29] Immobile and ancient, China seemed to present the negative image of a dynamic, modernizing West. Today, some scholars still express this notion nearly as contentiously as Dickens did a century and a half ago. Example: "There was no cumulative innovation [in China] after the precocious Tang and Sung dynasties [618–1279 CE]."[30]

As we'll see there was plenty of cumulative innovation in China after 1279, but the point is not to discard the stagnation idea entirely, just to deploy it more precisely. From a military perspective, it works only for two periods: mildly for 1450 to 1550, and significantly for 1760 to 1839.

More importantly, we must be careful about how we explain these periods of military stagnation. Scholars of a traditionalist bent tend to blame deep-seated cultural and institutional characteristics. China, they argue, was stymied by conservatism, closed-mindedness, civilizational arrogance, and Confucianism.[31] Perhaps we should expect views like this from conservative scholars, many of whom believe that "multiculturalism is an effort to destroy the uniqueness of Western nations,"

but similar perspectives are widely prevalent in works on military history.[32] For example, the author of a recent and otherwise excellent book on gunpowder writes, "The denizens of the Chinese court looked on gunpowder technology as a low, noisy, dirty business. The fact that guns were useful did not matter, usefulness lacking the overriding value that it held for occidentals."[33] Another author, an expert in renaissance military history, has written that "China's ruling bureaucrats . . . remained essentially aloof; the mechanics of warfare were beneath their interest."[34] Even scholars writing from a global historical perspective express such views. The book *Warfare in World History* tells us that "China preferred not to experiment too much with the new technologies for fear of disrupting the Confucian order of society and state," and the book *World History of Warfare* contains similar language.[35] We find the same perspectives expressed in other genres as well, including journalism.[36]

Yet as we'll see, imperial China's leaders and bureaucrats were fascinated by gunpowder and gunpowder weapons and worked hard to invent, adapt, and innovate. Among them were the most prominent Confucian scholars of their day. These men studied gunpowder weapons, tested them, experimented with their manufacture, developed tactics and strategies for deploying them, and wrote about all of this in detail. When foreigners had effective technologies—Vietnamese, Portuguese, Dutch, British—they studied and adopted them, often at considerable expense in time and treasure.

It's just that some periods in Chinese history called for less military innovation, particularly the Great Qing Peace of 1760 to 1839. During this time, Confucian scholars understandably tended to focus on nonmilitary matters. When war came to China again in 1839 (and the wars of the mid-nineteenth century were among the most destructive in Chinese history) Confucian scholars were once again at the forefront of military innovation. Their efforts were also more fruitful than was once believed.

It's not my intention to reduce the puzzle of China's nineteenth-century weakness to the frequency of warfare. War is just one variable among many: ethnic tensions, unwieldy political structures, factionalism, the fact that China had unusually powerful enemies, and so on. Nor should we discard the many other models China experts have

proposed to explain the puzzle of China's apparent stagnation: Mark Elvin's famous model of agricultural stagnation; Kent Deng's sophisticated model of structural equilibrium; the classical idea that China lacked an activist bourgeoisie (an idea held by the great historian of Chinese science, Joseph Needham); R. Bin Wong and Jean-Laurent Rosenthal's brilliant model of geopolitical competition, capital, and wage labor; and many others.[37]

By the same token, we should not discount all of the cultural explanations that traditionalist scholars are fond of, particularly when it comes to science. Although many scholars currently downplay the significance of experimental science in the Great Economic Divergence (they are found on both sides of the revisionism debate), the evidence has convinced me that science played a key role in the Great Military Divergence.[38] Traditionalists are thus right to focus on science, and we shouldn't dismiss the other cultural and social elements they highlight: legal systems, fiscal structures, financial systems, municipal governance, educational institutions, and so forth. We need more comparative work on these questions, and specialists in East Asian history are conducting fascinating research along these lines.

Nonetheless, levels of geopolitical instability—warring states periods, if you will—help explain military aspects of the rise of the West and the decline of China in world history. Europe's state system may have been unusually stable and long-lasting, but patterns of military competition had significant effects in China as well.

Indeed, one of the fascinating points that emerges out of a global warring states perspective is that modernization—the systematic adoption of more advanced technologies and techniques—is not something that arrived suddenly in Asia in the 1800s. As other scholars have suggested, it's a long, deep process. The first gunpowder weapons evolved in a process of mutual interadoption during a period of warfare in East Asia from 900 to 1300. They spread beyond East Asia—probably carried by warring Mongols and their allies—and took root in Europe by 1320 or so, where they evolved quickly, only to be reexported in turn. The Ming adopted Portuguese cannons in the early 1500s, Japanese and Portuguese arquebuses in the mid-1500s, and advanced Western artillery in the 1600s. One scholar argues that China's adoption of such artillery was China's first "self-strengthening movement."[39] And it was effective.

Chinese artillery technology became in some ways superior to European artillery.[40] Guns helped the forces of China defeat Europe's two great seventeenth-century imperial powers: the Dutch and the Russians.[41] Nor were the Chinese alone—from Marrakesh to Edo, states adopted and innovated, passing techniques and technologies back and forth.

This perspective on deep modernization illuminates China's attempts to modernize in the modern age. China's nineteenth-century self-strengthening has generally been viewed as a failure, but in fact China and Japan were, in the second half of the nineteenth century, the most successful modernizing powers of Asia. It's easy to think of Asian modernization as a matter of "catching up," as though the Asians were closing a static gap. But in fact, Europeans themselves were modernizing. All were trying to catch up with Britain, and then, as the pace of change increased, each state struggled to stay abreast of rivals. Even Great Britain, the most technologically advanced of the nineteenth-century powers, was undergoing revolutionary change.

To be sure, the European powers had a head start, but China and Japan caught up quickly in military capacity, and Japan's greater success, manifested in its defeat of China in the Sino-Japanese War of 1894–1895, was due not so much to its superior ability to understand steam power or build guns and battleships (Chinese made steam engines first and built better battleships into the 1880s) but to China's political dysfunction. The Chinese had an old, creaky state; the Japanese had a new, effective one. Ten years after defeating China, Japan defeated another rusty state: Czarist Russia. Among the ships in the Japanese fleet were Chinese-made vessels Japan had captured a decade before.

China's modern weakness—apparent not just in its loss to Japan in 1895 but in the debilitating and nearly constant warfare that afflicted it from 1850 to 1949—may best be viewed not as a symptom of a failure to modernize but rather as the most recent variation on an ancient theme: the tumult of dynastic transition, which is invariably accompanied by frequent and intense warfare, rebels from within, invaders from without. Dynastic transitions are also associated with military, technological, and political innovation.

In any case, the dynamics of military modernization shouldn't be reduced to Westernization. The process marked global history for all of

the gunpowder age, and not just on the far western and eastern sides of Eurasia. The lands in between played a key role as well, although not one that will be examined in this book. Our purpose here is to outline a binary framework, in the hope that it will be of use in developing a truly global military history.

Our story begins in one of the most fascinating periods of Chinese history: the divided and dynamic Song dynasty.