

Philosophers
OF WAR

The Evolution of
History's Greatest
Military Thinkers

The Ancient to Pre-Modern World,
3000 BCE-1815 CE

**Daniel Coetzee and
Lee W. Eysturid, Editors**
Foreword by Dennis Showalter

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Volume 1: The Ancient to Premodern
World, 3000 BCE–1815 CE

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Foreword

The philosophy of war is usually treated in the context of philosophy as a discipline in the same way military justice is compared to justice, and military music to music. That is to say, it is presented as a red-headed stepchild at best or, more likely, as an illegitimate offspring. Carl von Clausewitz, the West's defining military philosopher and its most familiar figure, barely rates a footnote and an index entry in general histories of philosophy—even those with a German emphasis.

The same point can be made about military thought. Theoretical analysis of war is commonly understood in practical contexts: as a reaction to and a product of, experience. It is correspondingly presented in operational and institutional contexts: its templates are armed forces, states, and societies.

Daniel Coetzee and Lee Eysturlið's two magisterial volumes provide an alternate matrix. *The Philosophers of War* presents in a single compass the intellectual biographies of the world's military thinkers—all of them! Ranging from 3000 BC to the present, the work incorporates general theorists and theoretical specialists from every culture that has practiced war over enough time, and with enough structure, to inspire systematic reflection.

Its expansive structure enhances *The Philosophers of War's* value by enabling multiple perspectives. The work's two volumes beak at 1815. The theorists presented in Volume 1 range from familiar figures such as Jomini, Sun Tzu, and Thucydides; through such dissertation subjects as Fabius Cunctator and Maurice de Saxe; and to their virtually unknown counterparts from China and South Asia. The encyclopedic format of multiple authors and discrete entries means each subject has his own perspective and voice, as opposed to being fitted into a single editor's matrix. The result is an opportunity for readers unfamiliar with, or dubious about, the existence and nature of the philosophy of war to access a compendium of insights.

The same holds true for the volume's specialized sections. Political and grand strategy; tactical and operational analysis; and siege warfare and artillery—all have their place. Essays on particular subjects ranging from the use of elephants to Southeast Asian naval warfare fill the gaps.

In the period covered by Volume 2, war-making has grown increasingly complex and increasingly compartmentalized. The work responds by including theoretical sections addressing naval and air power. But the “General Theory” category is creatively comprehensive. Henry Kissinger, William S. Lind, and William DePuy appropriately stand alongside Clausewitz and Trotsky. Military management, operational research, and nuclear war expand Volume 1’s relative battlefield focus—though tactics in general and armored war in particular sustain the analysis of war’s sharp end. Pride of place in Volume 2, however, goes to the sections on insurgency and counterinsurgency. The biographic format finds room for Gandhi, Giap, T. E. Lawrence, and Roger Trinquier. The result is a unique compendium of ideas on the nature of a form of war that bids fair to dominate at least the first half of the 21st century.

The Philosophers of War is user friendly in its structure, which enables prompt cross-referencing of personalities, ideas, and references. Further, the editors have assembled a Who’s Who of scholars in the field. Some, such as Norman Stone and David Glantz, are readily familiar. The less-familiar essayists, however, are no less competent. Their scholarship combines with Eysturlid’s disciplined editing to make *The Philosophers of War* a valuable contribution to the study of war and a worthwhile acquisition for anyone interested in the subject.

Dennis Showalter
Colorado College

Set Introduction

War is a complicated business. Due to the importance that civilized humans have given to it since the very beginning, it simply cannot be taken lightly. For this reason alone the search for the multifaceted answer of how to achieve victory in war has consumed the mental efforts of kings, soldiers, and wise men for millennia. The destructive physical nature of war makes its practice something that demands a civilization's energies and best thinking. When societies have seen war as something to be taken lightly, they have paid for it with military failure. For this reason to unearth the core of any historical period, to understand a society's politics, economics, and especially its social structure and mores, one must study how a society conducts and thinks about war. For how war is conducted is inseparable from how a society thinks about it. To ignore the mental process that is assigned by a culture for the conduct of war is to just see the movement of armies or fleets in a vacuum, obscuring understanding. The student of history cannot, therefore, avoid the study of conflict and those that gave its conduct direction. To understand war we must understand the military thinker, the *Philosophers of War*.

What then qualifies someone as a "philosopher" in the art of war? The general definition often given for that word is of someone that seeks wisdom and is an expounder of a theory or specific area of experience. This being the case the writers and practitioners of war included in this work fit neatly. All of them had, from the course of experience in war, or through the study of it, come to develop theories they felt of merit. In some cases these theories never made it to paper, but their practice was likely dynamic and brought about change. This then is the philosophy part that these writers looked to create a systematic way to get at knowledge about the conduct of war, specific or general. It is for this reason too that many famous military commanders do not warrant inclusion. The simple practice of war, however successful, is not to be equated with the actual study of war. For this reason, great generals such as George Washington or Alexander the Great, to name but two, are not included.

This work, the *Philosophers of War*, is a collection of what might be called professional or intellectual biographies of these individuals that had some originality

and impact on their immediate circumstances and on the future. The editors made an effort to be inclusive of both great and minor figures, and to be thoughtful of military practices in societies that were not overtly literate. As with all figures in history, the impact of individuals varies wildly. For this reason the length of specific entries can vary a great deal. The entry on Carl von Clausewitz, perhaps one of three most influential military theorists of any time, runs over 8,000 words. In contrast, a Russian field marshal who was Clausewitz's contemporary, Alexander Suvorov, wrote little and had only a localized impact, warrants a short entry of 300 words.

The intention of this two-volume set is to provide the user with a twofold tool. It is the sincere hope of the editors that the users will see themselves as accessing a tool of reference and also a book of military biography. In the first case the user will be able to find an exhaustive list of military thinkers from the ancient world to the present, each thoughtfully organized to allow for comparison. Next, the entries are broken up first by chronology, with writers appearing before 1815 in the first volume, and those thereafter in the second. Then the writers are organized thematically. Where the military philosopher wrote broadly, he is in a general grouping. The famous Chinese military writer Sun Tzu wrote broadly on military, political, and moral issues, so he transcends a single theme. Otherwise writers are grouped by their specific focus, for example, Osama bin Ladin is in the category titled *Insurgency*.

Having come to the work as one of reference, the user can now see that a second and hopefully even more rewarding option is possible. If the readers were interested in the topic of insurgency, for example, they could begin to read the entries in that section, gaining a broad education in insurgency theory from the key writers in that area of study. The reader would see the time frame of insurgency emerge, the areas, if any, of geographic concentration, and the problems faced by writers of insurgency theory. This collection of writers would allow for a general reading as well as making it a source if doing research. For this reason the intellectual biographies and the organization of the work give it multiple potential uses.

STRUCTURE OF THE ENTRIES

Each entry is generally structured to look alike. As mentioned, the intention is to allow the user to make relatively easy comparisons between them. To facilitate the user getting at the information they want, this layout will speed their research. Each subsection of an entry compliments the overall entry.

The Logic of Entry Structure:

Name: The full name and dates for the theorist.

Significance: Why is this individual worth investigating?

Context: What time frame or in what situation as this individual active?

Biography: This is a short synopsis of this person's life, both professional and personal. Especially as it pertains to what they wrote.

Influences: What other writers, or what events, molded this person.

The Theory: What did this writer actually have to say about war or how did they practice war in an original manner that had some impact on the future?

Descendents: Who can the historian say with some certainty was impacted by the work or practice of this theorist?

See Also: What other entries are there in this work that pertain or have similarities to the entry at hand?

Further Reading: This section contains useful bibliographic material to allow for further research. The less famous theorists often have little written about them, and the work here in the encyclopedia represents the work of the scholar writing the entry.

Finally, as mentioned earlier, it is the intention of the editors that someone doing research might pick up one of these two volumes to find a specific theorist. Having found that person in a specific section, he or she would then see that there as a wealth of individuals who had written about their topic, and they would end up, back at their study table, pouring over that section to see who else was of interest and of use to their research. Facilitated by the common organization of each entry, the reader would have found theorists, book titles, and ideas that they would not have found in a traditionally organized work of reference on the topic.

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Introduction to Volume 1

The first volume of *Philosophers at War* is intended to bring the user sources on the writings and practice of war from the earliest period of civilization to the end of the Napoleonic Era. The intention here is to provide a useful separation between the premodern and modern period—for the purpose of understanding the actual theorizing on war this separation is vital. Before 1815 works on war were not engaged in any systematic or academic fashion, but rather as the writer, be he a king, commander, or philosopher, felt inclined. Therefore, expertise is not easily measurable in any modern or academic sense and often theorists covered multiple, even disparate, topics. For example, the works of **Niccolò Machiavelli** covered everything from politics, to tactical dispositions, to a history of the papacy. He was one of many early writers to engage so broadly. Further, the entire period before 1815 was often limited by the ability to effectively publish and distribute such writings, and often the work was not intended for a general audience. **Frederick the Great** had no intention of his *Instructions* being public, whereas **Julius Caesar's** *Commentaries* on the Gallic wars was a work meant for open consumption.

The range of time then, a period that covers some 3,000 years, experienced changes, but retained certain fundamental similarities that allow such a grouping to make sense. It was only in the last 400 years of this three-millennium timeframe that gunpowder came into use. Therefore, weaponry, although diverse, was powered by human muscle, with combat a “face-to-face” affair. Transportation was tied to foot and horse on land and wind or oars at sea. Finally, the primary logistical struggle for all these writers was the tyranny of food supplies, the movement of ammunition and fuel surpassing food only after 1914. Because supply was such an overwhelming issue, the walled city and the siege, whether the attack or in the defense, were often focal points of campaigns.

Another issue encountered in the period before 1815, and especially before 1400, is a lack of literacy. Many famous commanders and innovators in war never put pen to paper. Rather they practiced new and often bold ideas, which influenced

future use and memory through actual practice rather than transmission through writing. Several of the practitioners listed, **Genghis Khan**, for example, left no written record, but were clearly innovators in the art of war. The first volume ends with a series of essays that will give the user the ability to better understand the practice of war in places where conflict had limited record and are well served by a summary. Titled “General Essays,” these overviews will allow the user to insight into often missed military cultures, the entry on **Indian chariot use** being an excellent example. The discrete organization of theorists by field rather than alphabetically is intended to allow the user to browse through all the work on a single topic rather than just seek a single entry.

General Theory

This section describes those writers who engaged with the general topic of war, whether they actually wrote about war or simply practiced it. The writers tend to cover all the main concerns, from politics to strategy to tactics, as can be seen in the works of **Sun Tzu**, **Herodotus**, and **Timur**. For the theorists in this section the goal is to find a method that will give the reader the information necessary to put together the elements of conflict necessary to achieve success.

Al-Kufi, Abu-Bakr

(Thirteenth century CE, writing about early eighth century CE)

Significance: Hindu scholars of ancient India viewed the world, including human life, as *maya* (illusion) and had a certain disregard for history. But Muslim scholars such as Abu-Bakr had a keen desire to know the course of human affairs and to record the past. Information about medieval India proliferates with the outpourings of the Arab authors from the ninth century onward. In a flowery language, they describe the collapse of Hindu India due to the onslaught of the Muslims. Though written from the victor's perspective and tinged with chauvinism and xenophobia, these accounts clarify military theory and praxis. The *Chach Nama* depicts the introduction of new military techniques by the Arabs into India during their conquest of Sind between 711 and 713. It is particularly useful in establishing changes to Arab warfare that had occurred since their explosion from the Arabian Peninsula in the seventh century, and their subsequent interaction with the Persian and Byzantine military civilizations.

Context: During the seventh century CE, the Umayyid Caliphate emerged as a global power, and between 622 and 748, it included Arabia, Iraq, Persia, Syria, and northern Africa. The Persian Sassanid Empire was overrun and Islamic forces reached as far as Afghanistan in the east. The Arabs had started pillaging the coast of Sind from 637, but there was no pan-Indian polity to check them. Indeed, from

2 General Theory

775 to 1018, tussles between the Rashtrakutas, the Gurjara-Pratiharas, and the Palas weakened India's western defense. As a result, Sind was an independent regional Hindu kingdom on the eve of Arab invasion.

In 712, Al-Hajjaj, the governor of *Ajam* (Iraq) under Caliph Walid, was in charge of expansion east of Iran. Among the expeditions that he authorized was the one against Sind under Muhammad-bin-Qasim. Initially, the Caliph was not eager to attack Sind, but Hajjaj assured him that the expedition would be rewarding, and that if any economic loss occurred, Hajjaj would personally repay the Caliph's treasury.

Biography: *Chach Nama* (also known as *Tarikh-i-Hind* or *Wa Sind* or *Fath Nama*) was written toward the end of the eighth century. The original author was an Arab intellectual who was appointed by Muhammad Qasim as the *Qazi* [Chief of Justice] of the town of Alor. His original name is unknown to us. Abu-Bakr-al-Kufi, who lived in Delhi during the 13th century, translated *Chach Nama* from Arabic into Persian. The translation was dedicated to Nasir-ud-din Qubacha (a lieutenant of Muhammad Ghori) in 1216.

Influences: Because Arab tradition cherished democratic ideals, the Arab chroniclers treated history as a biography of nations, and narrated incidents related to the common mass. The *Qazi*, while writing *Chach Nama*, depended on oral testimonies of the persons who had participated in the invasion of Sind.

The Theory: *Chach Nama* tells us that the Arabs introduced *manjaniqs* (trebuchets, catapults, or mangonels) and armored cavalry at the western end of the Indian subcontinent. The effective and novel combination of cavalry, artillery (using naphtha), new siege warfare techniques, and river boats, allowed the Arabs to comprehensively outfight Sind's Hindus.

The Arabs' superiority in siege warfare, using *manjaniqs*, naphtha fire, and mining, nullified the defensive value of the Hindu forts. The Arabs had learnt to use *manjaniqs* by copying the Byzantine trebuchets, and had employed them during the sieges of Taif, Damascus, and Mecca. Muhammad Qasim, the master of the author of the *Chach Nama*, himself used *manjaniqs* during the Sind invasion in 711–712 while besieging the port of Debal. Five *manjaniqs* together with their ammunition were transported by sea to Debal. Then, the *manjaniqs* were transported from Debal to Brahmanabad on boats along the Indus. A *manjaniq* required 500 men to work it. Each machine had a pivot, and while the strongest men pulled back one *palla* (beam) with special cords, the other *palla* moved forward and struck the stone ball. The artificially shaped stone balls (usually round or oblong) thrown by the *manjaniqs* shattered forts' stone walls. These weapons were unknown on the Indian subcontinent. Once the walls of the forts were breached by the *manjaniqs* and mining, Arab infantry used scaling ladders for assaulting the garrisons.

Arab cavalry warfare, in both shock and missile styles, also greatly surpassed Hindu techniques. *Chach Nama* implies that India lacked good horses, and this enabled the Arabs to repeatedly defeat the Indian forces. Al-Beruni (January 970–September 1038) who entered the service of Muhammad-bin-Subuktigin, the ruler of a small principality in Afghanistan, noted in his *Kitab-ul-Hind* that even in his day, the Turks were celebrated for their horses, whereas the people of Hind (India) did not breed good horses. The Hindus, asserts Al-Beruni, lacked knowledge about feeding the horses properly. The net result was that most of the horses became lame after some time. Al-Beruni implied that Hindu domestic horses bred in places such as Mabar (Malabar) were of such poor quality that India could be conquered by the Muslim rulers with their superior cavalry. Importing horses from overseas became a strategic necessity for Hindu rulers by the mid-eighth century. Arab merchants brought horses from the Persian Gulf in ships and sold them to the Hindu kings for gold. Thousands of horses were exported by the Arab horse dealers from islands such as Kis, Fars, Katif, Lahsa, Bahrein, Hormuz, and Kilahat. One problem was that the muscles of the horses imported from Arabia became damaged due to the long-distance overseas voyage. In terms of speed and stamina, the Arabian horses were no match for the Central Asian steppe horses. The Hindu kings could not import horses from Central Asia because that region was dominated by the hostile Turks, who repeatedly invaded India through the Northwest Frontier passes.

Another primary reason for the collapse of Sind in the 710s, as implied in *Chach Nama*, was the fact that Dahir, the ruler of Sind, lacked a navy, which could have functioned as the first line of defense.

Application: The Arabs invaded Sind during the rule of King Dahir (679–712), whose defense emphasized positional warfare and the use of elephants. An Arab expeditionary force under the leadership of a 17-year-old Arab general named Muhammad Qasim (the son-in-law of Al-Hajjaj) was sent from Iraq by ships and disembarked at Debal (either modern Karachi or a place near Thatta). From Debal, Qasim moved into Nerun. He crossed Indus by constructing a bridge of boats. Qasim also used a flotilla of boats for conveying the soldiers along the Indus. About 6,000 Syrian cavalry in iron armor constituted the core of the land army. In addition, the Arab force had 6,000 armed camel riders, and for logistical duties there were 3,000 Bactrian camels. The Arabs recruited 3,000 infantry from the Buddhist Sind tribes.

Initially Dahir thought that the Arabs would leave after capturing a few frontier forts. But when Qasim continued to advance, Dahir met the Arab forces at Raor. In a battle fought in June 712, discharge of naphtha (probably Greek fire) and a frontal charge by armored cavalry eviscerated Dahir's elephant-centric army. Dahir, leading his troops from an elephant-mounted *howdah* (box-like chair), was killed.

Dahir's son Jaisiya resorted to positional warfare, as he realized that in open battles, Qasim's cavalry would defeat the Hindus' slow-moving elephant-oriented forces. One of Dahir's queens named Rani Bai moved into the great fort of Rawar

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with 15,000 soldiers, but to no avail. The fort fell after the garrison suffered 6,000 casualties. The fort of Brahmanabad fell with a loss of 16,000 men out of the 40,000-strong garrison. Within three years, Qasim had captured the whole of Sind.

Descendents: After the Arab invasion, some Hindu powers maintained considerable naval forces. Around the 11th century CE, some of the big ships manufactured by the Hindus weighed 2,300 tons. Such a river navy in Dahir's hand could have checked Qasim's march along the Indus. Moreover, it would have allowed Dahir to react quickly to the Arab invasion by transporting troops in ships from his capital to Debal.

Later Muslim invaders of India copied the new weapons introduced by the Arabs. For example, Mahmud Ghazni (999–1030) used naphtha both in land and river battles. In 1027, Mahmud constructed a flotilla of 1,400 boats at Multan. On each boat, he stationed 20 men armed with bows, arrows, and naphtha. The Jats collected 4,000 boats. But, in the naval battle, the Jats were defeated because of naphtha fire and superior construction of Mahmud's boats. Each of Mahmud Ghazni's boat had an iron spike in the front and on both sides. While explosion of naphtha disorganized the Jat boats, the spikes were used for ramming and sinking them.

The Delhi sultans adopted Qasim's use of a riverine navy for transporting troops. Firuz Shah Tughluq (1351–1388), while campaigning in Sind between 1361 and 1362 used boats to transport his army comprising 90,000 cavalry and 480 elephants along River Indus to Thatta.

Mahmud Ghazni copied Qasim's use of camels as baggage animals. In 1025, during the Somnath expedition across the desert of Rajasthan, Mahmud employed 30,000 camels loaded with corn and water.

The use of *manjaniqs* spread from Sind into India. Sultan Alauddin Khalji (1296–1316) of Delhi used the *manjaniqs* for capturing the forts of Ranthambor (1301) and Mandu (1305). By the 14th century, even the Hindu defenders were using smaller *manjaniqs* known as *iradas* (which were placed inside the forts) against besieging Muslim armies.

See also: Use of Elephants in Indian Warfare

Further Reading

The History of India as Told by Its Own Historians: The Muhammadan Period, ed. from the Posthumous Papers of the late H. M. Elliot, by John Dawson, vol. 1. 4th ed. New Delhi: D. K. Publishers, 2001.

Nizami, K. A., ed. *Politics and Society during the Early Medieval Period: Collected Works of Mohammad Habib*, vol. 2. New Delhi: People's Publishing House, 1981.

Rizvi, S.A.A., *The Wonder that was India*, vol. 2, *A Survey of the History and Culture of the Indian Subcontinent from the Coming of the Muslims to the British Conquest, 1200–1700*. 1987, reprint, New Delhi: Rupa, 1999.

Kaushik Roy

Al-Rawandi, 'Ali Abu-Bakr Najm al-Din Muhammad Ibn

(Late 12th century CE)

Significance: Al-Rawandi's one surviving major work was written in Persian and discussed general military theory.

Context: Al-Rawandi was active in the dying days of the Great Seljuq Sultanate, and saw the rise of the Khwarazmshah dynasty.

Biography: Al-Rawandi's education, at Hamadan in western Iran between 1174 and 1184 CE, focused upon the Hanafi school of Islamic law. He traveled widely and became a skilled calligrapher. He conceived of a book combining an anthology of poetry with a history of the Seljuq Turks, which he would present at the Great Seljuq Sultanate court. Unfortunately, when it was completed around 1205, a new Khwarazmshah dynasty was in power. Al-Rawandi moved to the smaller but still Seljuq Sultanate of Rum. He presented his *Rahat al-Sudur wa-Ayat al-Surur* to Sultan Kay Khusraw I around 1207 CE. It is the only one of his works that is known to survive.

The Theory: The *Rahat al-Sudur* discusses how kingship should be conducted. Al-Rawandi uses the historical narrative as a framework upon which to hang anecdotes, wise sayings, poetic quotations, and examples of correct procedure. He described this *majmu'a* or "compilation" as a morally edifying and practical guide to life at court and on campaign. Militarily, the most interesting part of the *Rahat al-Sudur* deals with the final years of the Great Seljuq Sultanate, when it was dominated by the military *atabeg* or "rulers' father-figure" Muhammad Jahan Pahlavan. Al-Rawandi analyses Pahlavan's failures, offering the *atabeg* as a negative role model because his policy of benefiting his corps of *mamluk* professional soldiers resulted in corruption, which then attracted the predatory Khwarazmshahs. The *Rahat al-Sudur* also includes sections on archery, horse riding, and chess. Another chapter explains *Al-ghalib w'al-maghlub*, a form of fortune telling that supposedly predicted the results of potential clashes between rivals.

Application and Descendants: Al-Rawandi was not highly regarded in Seljuq Turkey after his death. However, his *Rahat al-Sudur wa-Ayat al-Surur* was used by later Persian historians and was translated into Turkish during the reign of the Ottoman Sultan Murad II (1421 and 1446–1451 CE).

See also: Mubarakshah, Fakhr-i Mudabbir; Naşûh bin Karagöz, called Matrakçı, Matrâqî, Silâhî, etc.; Usama Ibn Munqidh

David Nicolle

Al-Shaybani, Muhammad Ibn al-Hasan

(749–805)

Significance: Muslim jurisprudence has always had an “etiquette of war,” which encompassed when armed conflict is justified, legitimate targets of deadly force, permissible weapons of war, treatment of prisoners of war, division of booty, cessation of hostilities, and other topics relevant to initiating, conducting, and ending armed conflict. Al-Shaybani was among the first to develop a coherent framework that drew from Muslim legal tradition and specifically addressed the conduct during armed conflict (al-Siyar).

Context: During the time of Harun al-Rashid, it was accepted practice for government officials to seek the counsel of learned “men of religion.” These consultations conferred legitimacy to the subsequent policies, and forced theologians to develop practical solutions through Sharia reasoning. In accordance with the accepted practice of Sharia reasoning, the religious scholars scoured the sacred texts, reviewed past examples, and used reasoning to derive new laws.

Biography: Al-Shaybani lived in Iraq. He was born in al-Wasit, a military town, and to a military family. But he was more interested in perusing an intellectual career than a military one. He moved to Kufa and studied under the famous theologian Abu Hanifa (d. 767), and later under Abu Yusuf (d. 795). By the time of his own death, he was considered one of the early masters of the Hanafi school (along with Abu Hanifa and Abu Yusuf). He was also served as qadi (judge) in Harun al-Rashid’s court.

Influences: The Sharia’s scope encompassed not only an individual’s relationship with other individuals and the state, but also an individual’s private thoughts and relationship with the divine. In addition to a legal system, it also included ritual practices and moral standards. Hence, it was a comprehensive code of behavior covering ritual, ethics, and law that regulated both the private and public spheres. Throughout the medieval period this basic doctrine was elaborated and systematized in a large number of commentaries. The voluminous literature this exercise produced constituted the traditional textual authority of Sharia law.

Conduct in war, conditions necessary for armed conflict, and those necessary for its cessation, permissible weapons of war, treatment of prisoners of war, distribution of booty, and other issues related to armed conflict also fell under the Sharia’s purview. These were collected under the subheading al-Siyar, which addressed the conduct of war.

The Theory: Al-Shaybani realized that there is a gap between the precedents set during the time of the Prophet (in the seventh century) and questions of subsequent generations. He argued that the space had to be filled by the reasoning of the learned. With this line of reasoning, al-Shaybani and his colleagues started

a trans-generational conversation evaluating Sharia reasoning. Later, scholars reached a consensus that the task of providing guidance on the Sharia lay in interpreting the Koran and reports of prophetic practice, considerations of precedents set by earlier generations, and scholarly reasoning.

Al-Shaybani thought of the world as being divided into Dar al-Islam (lit. “House of Peace”), which were the lands ruled by the rightful caliph, and Dar al-Harb (lit. “House of War”), which were lands not controlled by the rightful caliph. He also divided people living in the Muslim territories. First were the Muslims who had an obligation to pay taxes, and respond to a call to arms. The al-dhimmi (protected people) had an obligation to pay tribute to the Muslim ruler, and expected to be protected from invaders. The al-bughat (rebels) were Muslims who challenged the authority of the caliph. They were to be brought back into the fold of Islam if possible. The al-muharribun were the brigands and highwaymen from whom the residents of the territory deserve protection. Finally, the al-murtadd (apostates) who turned away from Islam, and needed to be called to repent or be punished. Within these groups, people were classified as combatants (all men able to bear arms), and noncombatants (women, children, elderly, and disabled—unless they take up arms). Using this classification, al-Shaybani answers three main questions: When is fighting justified? Who are the targets of fighting? How is fighting concluded?

Fighting was justified when there was just cause and presence of right intention. As al-Shaybani assumed that war was a rule-governed activity, he further stipulated that the directive to fight must come from a legitimate authority. Just causes for war needed to entail at least one of the following:

- Fighting to spread Islamic hegemony. This entailed either direct territorial control, or receipt of annual tribute from the territories. One consideration was: does armed conflict necessitate a military threat, or was merely refusal to convert or pay tribute sufficient for armed conquest. The religious scholars realized that the end goal is to spread Islamic hegemony. Conquest can serve that end, but it was a by-product, not an end in itself. War was fought for a purpose, and if that purpose was better served by other means (such as persuasion or diplomacy), then there was no need for armed conflict. Hence, war was justified only when nonmilitary means are exhausted. Furthermore, an army that gave the enemy a second chance acted commendably, as there was another opportunity to avert further destruction.
- Fighting to discipline al-dhimmis, was to be directed only to those al-dhimmi who violated their agreement with Muslim authorities.
- Fighting to bring Muslim rebels back into the fold of Islam had the goal of limiting rebellion and reconciling with other Muslims.
- Fighting to discipline the brigands was to secure the safety and property of those who had entrusted the government to provide them protection.
- Fighting apostates was to either have them repent for their transgression or to bring them to justice.

The target of fighting mirrored the categories of people above. In short, legitimate targets were those groups who resisted the legitimate aims of the established

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caliph (i.e., legitimate authorities of Dar al-Islam). Thus, in addition to hostile armies, al-dhimmis who violated their agreements, rebels, brigands, and apostates were legitimate targets of military action. However, not everybody among the enemy was a legitimate target of deadly force. Only those who posed a military threat could be subjected to direct and intentional killing.

How fighting ended depended on the identity of the combatants, and the location of the fighting. Fighting against Muslims was more restricted than it was against non-Muslims. The end goal of fighting was to reach reconciliation (the goal was primarily religious, not political or economic).

Treatment of captives depended on the location. Combatants captured in Dar al-Harb may be spared or killed (depending on the commander's judgment). If they were spared, they become part of the booty and were transported to Dar al-Islam for distribution. Noncombatants were transported to Dar al-Islam for distribution. If a means of transport was not immediately available, and the captives could not walk, then the commander was obliged to arrange for suitable transport. Booty was removed from Dar al-Harb and brought to Dar al-Islam before distribution. Hence, a soldier had to wait until the Muslim forces return (with the captured treasure) before it was distributed. The emphasis was on equitable distribution of booty.

Al-Shaybani also addressed concerns regarding unintentional killing of non-combatants. In a just war, noncombatants were immune from direct and intentional killing, but that did not mean that they were immune from all harm. Al-Shaybani took the position that as long as care was taken to aim at combatants, any deaths of noncombatants is an indirect effect of legitimate action. This line of reasoning was used to justify the use of fire, water, and other methods of mass destruction during warfare. Al-Shaybani reasoned that the goal of extending Muslim hegemony was good. The actions necessary to further the goal were also good, provided that the fighters conducted themselves with good intentions, and avoided killing non-combatants. However, the enemy could not be allowed to take advantage of these good intentions through measures that would curtail the army's ability to carry out its legitimate goal. Hence, fighters engaged in legitimate military actions did not incur the guilt of the foreseen, yet unintended consequences of their military actions. Al-Shaybani further reasoned that although war was not the first or most desirable means for extending Islamic hegemony, it was sometimes necessary. Hence, it should be used only when it is necessary, and hostilities should cease as soon as possible.

Application: The Hanafiyah school (in which al-Shaybani is considered among its masters) was the official system of Islamic interpretation of the Abbasids, Seljuks, and Ottomans. Al-Shaybani's thoughts on conduct of war were used by later Muslim empires, specifically the Ottoman, Safavid, and Moghul, in formulating official policy. In contemporary times, the Hanafiya school of thought is dominant in Central Asia, India, Pakistan, Turkey, and countries of the former Ottoman Empire. Using al-Shaybani's work as a starting point, scholars have debated issues of

human rights, and the rights of non-Muslim nations to exist. Although differences exist, al-Shaybani’s work has been extended to affirm human rights, and recognize lands that are neither Dar al-Islam nor Dar al-Harb, but neutral states.

Descendants: The generation after al-Shaybani saw the rise of other schools of thought. Some of these restricted the tools available to scholars to address issues of the time. For instance, precedence traceable only to the Prophet were authoritative. Precedence established by previous scholars were binding only if they could garner the consensus of the entire Muslim community. The Shafi school viewed the entire world as Dar al-Islam (at least in theory). This meant that the question of a just war took on a different cast. The requirements for armed conflict were relaxed, and the division of booty became more lenient. As a result, it became easier for the state to wage war.

Further Reading

Johnson, James Turner, *The Holy War Idea in Western and Islamic Traditions*. University Park: Pennsylvania State University Press, 1997.

Peters, Rudolph, *Jihad in Classical and Modern Islam: A Reader*. Princeton: Markus Wiener Publishers, 1996.

Muhammed Hassanali

Al-Shayzari, ‘Abd al-Rahman

Significance: Al-Shayzari’s work focused on military statecraft and broad strategy.

Context: Al-Shayzari was one of three scholars who wrote treatises on different aspects of warfare for Salah al-Din, Saladin, or his immediate successor in the late 12th and early 13th centuries CE.

Biography: ‘Abd al-Rahman al-Shayzari was born before 1128 CE, probably in central Syria. The correct form of his full name was probably ‘Abd al-Rahman Ibn Nasr Ibn ‘Abd Allah al-Shayzari. He was said to have been a *qadi* Islamic judge in Tiberius, which Saladin retrieved from the Crusaders in 1187 CE. Al-Shayzari reportedly also worked as a physician in Aleppo. His nonmilitary writings show that he knew a great deal about the medical professions. He died ca. 1193 CE.

The Theory: Al-Shayzari’s *Al-manhaj al-masluk fi siyasat al-muluk* or “The Proper Course for the Policy of Kings,” written for Saladin, is an Arabic example of the genre known as “Mirrors for Princes.” Five of its 20 chapters are on military matters, whereas another concerns the Christian Crusader enemy. One deals with a ruler’s overall military policy and the organization of his troops. Others describe how to inspire a spirit of *jihad* (“lesser *jihad*” or religiously motivated warfare) among military personnel, the strengths and weaknesses of the “polytheists” or

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Crusaders, ways of stopping the “machinations” of the enemies of Islam, the legally correct division of booty among those participating in a campaign, and actions calculated to keep the ruler’s army united.

Application and Descendents: Whether al-Shayzari’s military writing had any later impact is unknown, though *Al-manhaj al-masluk fi siyasat al-muluk* was quoted in Ibn Qadi Shuhba’s biography of Saladin’s predecessor, Nur al-Din.

See also: Al-Tarsusi, Mardi bin Ali; Usama Ibn Munqidh

David Nicolle

Al-Tarsusi, Mardi bin Ali

(12th century)

Significance: Al-Tarsusi wrote a military manual for Salah al-Din titled “Instruction of the Masters on the Means of Deliverance in Wars from Disaster, and the Unfurling of the Banners of Information: On Equipment and Engines which aid in Encounters with Enemies.” In it we find the first clearly written record of a counterweight trebuchet. The manual also records using “naft” (a petroleum-based resin and sulfur, similar to Greek fire), which al-Tarsusi suggests can be placed inside blown eggshells and thrown from horseback.

Context: During the 12th century, Salah al-Din was fighting back the Crusades and reclaiming some of the territories lost during the earlier Crusades. The Crusaders built heavily fortified citadels to defend their conquered lands. Hence, to gain back the lost territories, Salah al-Din needed methods that would penetrate such heavily fortified structures.

Influences: Stone-throwing artillery has been around since ancient times. Both the Greeks and Romans used such engines to hurl stones at their enemies. Their war engines were powered by either torsion (a wound rope, as in the onager) or tension (a drawn bow, as in the oxybeles). The traction trebuchet was the first to employ principles of gravity and leverage to hurl a projectile.

The Theory: The earliest trebuchet designs were a type of rotating-beam engine powered by a team of human beings. A team of haulers pulled down on a network of ropes attached to the rear of the machine’s throwing arm; an engineer loaded ammunition into the sling. The engineer could also provide some “whip” by adding his own weight to the throwing arm to retard its movement momentarily as the crew began its release. Designs ranged from a two-person quick-fire model to those requiring a crew of 250 personnel and were capable of hurling a 60 kg projectile more than 70 meters.

The trebuchet's simple design meant that precision parts (gears, locks, and precision frames) were not required. It also meant that it was not subject to as many catastrophic failures as it did not "cock" components in high-energy states of tension or torsion. As a result, traction trebuchets could be built in the field almost entirely out of rough-cut lumber and used natural stones. By the sixth century, Byzantium and Middle Eastern armies were using traction trebuchets in their military campaigns.

A trebuchet essentially consisted of a heavy frame that supported a pivoted asymmetric beam. Attached to the long end of the beam was a sling in which the operator placed a heavy rock. Attached to the short end were ropes that the hauling team pulled moving the short end downward, causing the long end to move upward. As the long end moved through its upward and forward arc, the sling released the rock, which now acted as a devastating projectile, and—if aimed correctly—collided into the intended target.

Although a trebuchet could be easily build on site, was capable of hurling heavy projectiles relatively long distances, and probably had impressive firing rates (just under four rounds per minute), it was not without its limitations. Coordinating a team of humans to pull with the same force in the same direction every time was challenging. Elementary physics of projectile motion would show that range is a function of the force on the short end of the arm. Hence, variation (in either magnitude or direction) of this force would directly impact range and accuracy. In addition, the best "pulling position" was directly under the short arm, which limited the physical size of the hauling team, and in turn limited the machine's range. A large hauling team placed additional constraints on the trebuchet's geometric considerations further limiting the machine's range of motion, and ultimately restricted its range.

Tarsusi wrote a military manual circa 1187 for Salah al-Din, and in that manual described a hybrid trebuchet. He claimed that his design had the same hurling power as a traction machine pulled by 50 men due to "the constant force [of gravity]." His design was more efficient than that using a large hauling team. As members of the hauling team pull in slightly difference directions, they cancelled out opposing forces (i.e., neutralized part of each other's efforts), and ultimately required more energy output to ready the machine.

Tarsusi's designed his hybrid trebuchet with a counterweight (possibly an iron plate forged directly to the short end of the pivoted beam). Constant force on the counterweight meant lower variation in the downward pull, which led to greater accuracy and better range. Hauling teams that used the counterweight design were smaller than those that used an equivalent performing traction design. The hybrid design also included a sling that gave the projectile more "whip," further increasing the projectile's range. Tarsusi also mounted the frame on wheels making it easier to move around in the battlefield. The added mobility of mounting the hybrid trebuchet on wheels, and the modified design that took advantage of the launching arm's entire range of motion made it a formidable

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piece of artillery on the battlefield—especially when it was used to take down fortified walls.

Application: Improved firing power was certainly the primary advantage of the hybrid trebuchet. This was proven during the siege of Damietta in Egypt in 1218 when it was used to hurl stones weighing a couple hundred kilograms at the city walls.

Descendants: European engineers encountered the trebuchet during the Crusades. They adopted and improved it during the subsequent centuries. They reasoned that if a small counterweight provided advantages, then a large one would provide even more advantages. This line of reasoning taken to its logical conclusion led to the counterpoise trebuchet.

Unlike traction and hybrid trebuchets, counterpoise trebuchets were powered by “falling weights.” These were either stationary weights, or hanging buckets filled with sand, rocks, or rubble from the short end of the beam. The use of gravity meant consistent launching forces, hence, greater accuracy. The absence of a pulling team gave engineers greater design flexibility. This flexibility was leveraged to create even greater throwing arcs, which in turn meant that larger projectiles could be hurled greater distances with improved accuracy.

The counterpoise enhanced the trebuchet’s destructive power, but greater artillery power came at a price. These machines needed elaborate block and tackle systems to raise the heavy ballast box; hence, they could only be fired three or four times per day. However, the counterpoise’s power gave these war machines a new role in battle. Smaller trebuchets were now used to support troops scaling castle walls or targeting structures within a walled city; counterpoise trebuchets could effectively be used to destroy well-fortified walls, which in turn sparked an architectural arms race.

The various variations of the trebuchet were used not only used for hurling rocks but also horses, cows, barrels of sand, human heads, and even live prisoners. In addition, they were used not only by the attackers, but also by the defenders in attempts to destroy the attackers’ siege machines. Their devastating power dominated the military landscape until gunpowder forced them into obsolescence.

Further Reading

Nicolle, David, *Saladin and the Saracens*. New York: Osprey Publishing, 1986, ISBN 0850456827.

Muhammed Hassanali

Babur, Zahiruddin

(February 14, 1484 CE to December 26, 1530 CE)

Significance: The autobiographical *Babur Nama (Memoirs of Babur)* tells us that Babur created a combined-arms approach by integrating Timur’s *taulqama* cavalry

tactics with an Ottoman-style use of matchlocks and field artillery. He also hints at decentralized battlefield command, in that his officers knew whom to attack without detailed instructions in mid-battle. This, the Germans later called *Auftragstaktik*. Against the composite cavalry-artillery military culture of Babur, neither the Afghans nor the Rajputs had any answer, and his lethal techniques resulted in the foundation of the Mughal Empire in north India. Babur's methods also hint at techniques used by his major influence, the Ottomans, further west.

Context: By the 1520s, the Delhi Sultanate under the Lodhi dynasty (1451–1526) was failing to establish its sway over north India. Peripheral provinces such as Bengal and Punjab had become independent, and the Rajputs were challenging Muslim rule in the Ganga–Jamuna *doab* (the region in north India between Rivers Ganga and Jamuna). Delhi had also lost control over northwest India, and hence, import of Central Asian horses had ceased. As a result, the Lodhi army became dependent primarily on elephants and infantry. Political turmoil and military weakness of the Delhi Sultanate gave Babur an excellent opportunity to invade India. Babur copied artillery from the Ottomans, who were most famed in the non-European world for manufacturing such weapons. The slow-moving Lodhi army and the technologically inferior Rajput forces were easy victims for the firepower-heavy, yet maneuverable, Mughal army.

Biography: In 1494, Babur, a Turkish warlord, inherited the kingdom of Ferghana, a strip of land between Khiva and the desert of Takla Makan, from his father Sheikh Omar. Babur lost this ancestral kingdom, but not his zest for life: he liked dry fruits, wine, women, hunting, and fighting. Babur even composed Turki verses, which he read to his retainers before the onset of a great battle, and left us his autobiography, originally written in the Turki language, entitled *Tuzuk-i-Baburi*. When translated in Persian, it came to be known as *Babur Nama*. In 1504, Babur occupied Kabul. The Afghans were disunited and fought against each other. Moreover, the Afghans mostly relied on infantry equipped with spears. Babur's horse archers easily defeated them. Next, Babur invaded India and fought three battles, which resulted in the replacement of Afghan rule with the Mughals in the Ganga–Jamuna *doab*.

Influences: Babur's military theory was influenced by Central Asian and West Asian traditions. *Babur Nama* gives us information regarding the organization of the Mughal army: the smallest unit was 10 men under an officer; next came a unit of 50 soldiers (which was composed of five 10-soldier units) commanded by a superior officer. This organizing principle had originated with the Mongol Chingiz (Genghis) Khan. Babur also learnt the *taulqama* charge from the Uzbek leader Shaibani Khan, who had, in turn, copied it from Timur. The lesson was learned the hard way: in May 1501, Shaibani defeated Babur at the Battle of Sar-i-Pul near Samarkhand. Shaibani's horse archers simultaneously attacked both the flanks and rear of Babur's army. The Uzbek archers shot their arrows from horseback while they galloped around Babur's soldiers. Babur's army disintegrated and he escaped

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to Samarkhand, from where he moved into Kabul. During his sojourn here, Babur acquired firearms from the West Asian Muslims. About his next battle at Khanwa, fought on March 17, 1527, Babur writes: “We imitated the *ghazis* of Rum (Ottoman Turks) by posting matchlock men and cannons along the line of carts that were chained to one another in front of us.” This technique was known as *tabur-jangi* in Turki (*Babur Nama*, vol. 2, p. 564). Babur depended on Ottoman gunners for manning his field guns, and his memoir even gives an account of gun casting by the Ottoman gunners in his pay.

The Theory: Babur’s autobiography details the tactics and technology used by him in decisive battles. Chain-mail armor was issued to the heavy cavalry. Composite bows made of wood (later steel); horn and sinews were used by his horse archers. Generally, the length of such a Mughal composite bow was four feet. It was the use of mounted archers, rather than the guns, which was the principal factor behind Mughal victories. Armed with composite bows, a mounted archer could fire six times faster than a matchlock man, and in the 16th century, an arrow shot by such bows had more range and accuracy than a musket shot. Again, whereas a matchlock man offered a static target to the enemy, the mounted archer was mobile. By contrast, typical cannon could fire a maximum 16 times in a day—and several guns burst while firing.

Babur introduced special mounted officers in the battlefields for carrying orders to the commanders of the different contingents. He emphasized strict discipline among his soldiers: those soldiers who raped and murdered ordinary inhabitants were flogged to death. Babur also took care of his men and shared the same hardship with them during campaigns. Such acts endeared him to the ordinary soldiers.

Application: On April 12, 1526, the Mughal and Lodhi armies fought the First Battle of Panipat. Ibrahim Lodhi deployed a thousand-armored elephants, 20,000 cavalry equipped by the state and 20,000 cavalry mounted on Indian horses that were raised by the chiefs. In addition, Ibrahim had 30,000 infantry armed with pikes, swords, and bows. Since the Delhi Sultanate had lost control over Kabul, the Lodhi army did not possess horse archers. Babur, by contrast, had 12,000 horse archers and 13,000 musketeers and gunners. Babur positioned the mounted archers at his two flanks.

The Mughal left wing under Mahdi Khwaja was the first to engage the Lodhi force. Due to the arrows shot by the archers, the elephants opposed to Khwaja were forced to retire. In addition, the noises produced by the guns deployed at Babur’s center unnerved the Lodhi soldiers. Then the Mughal mounted archers attacked the Lodhi army from both the flanks and the rear. The shower of arrows made Ibrahim’s soldiers fall back on their own center. Soon, the Lodhi soldiers were massed so tightly that they could move neither forward against the Mughal army, nor retreat in an orderly manner. Ibrahim, along with 50,000 of his soldiers, died. Babur captured Delhi and took the title of *Padshah* (emperor).

However, Babur had to defeat the Rajputs before he could establish control over north India. He clashed with the Rajputs under their chief Rana Sanga at Khanwa. The battle started on the morning of March 17, 1527. The Mughals had about a thousand baggage carts placed in a linear formation and tied in Turki fashion with thongs of raw hide, to form an entrenched camp. Between every two carts, the distance was about 40 feet. *Mantlets* (movable shields) were placed in the gaps. Behind the *mantlets* were wheeled tripods from which the foot musketeers fired. The mortars and falconets were placed in the second line. Ustad Kuli was in charge of the guns at the 10,000-strong center. The right wing of the Mughal army under Prince Humayun was 5,000 strong, and the left wing 3,000 strong. At both the wings were placed *taulqama* parties of 1,000 horse archers each.

The Rajputs made a frontal attack, but the charge was destroyed by the Mughal mortars and handguns. The Rana was severely wounded by an arrow shot by such a Mughal mounted archer marksman ordered to pick off enemy commanders, and he fainted on the battlefield and was taken to safety. Two hours later, he awoke to learn that the Mughals were victorious.

After the defeat of the Rajputs, the Afghans rallied in Bihar, and Babur directed his force against them. On May 6, 1529, at the Battle of Ghagra, mortars and matchlocks gave victory to the Mughals. *Babur Nama* notes that in this battle, the Afghans of Bengal used *bans* (rockets) comprising combustible ingredients in bamboo cases against the Mughal army. The Mughals adopted the use of *bans* from the Afghans. The *bans* were considered by the English traders of Balasore Factory as more dangerous than grenades.

The combination of horse archery and gunpowder weapons (matchlocks and field guns) remained the basis of Mughal army under Babur's successors. Humayun maintained 5,000 matchlock men. The Mughal field guns were of two types. One type of guns discharged stone shot and another type discharged shot made of brass.

Things started going wrong for the Mughals after Babur's death in 1530, when his eldest son Humayun ascended the throne. In 1539, the Afghan warlord Sher Shah defeated the Mughals at the Battle of Chausa. Humayun escaped but was defeated again in 1540 at Bilgram. Several factors were responsible for the Mughal defeat. First, due to the treacherous behavior of Mirza Kamran, the governor of Kabul and Humayun's half brother, Humayun was not able to deploy horse archers in his battles against Sher Shah. And following Babur, Sher Shah used mortars made of copper and maintained matchlock men.

Descendents: *Babur Nama* influenced the production of *Jahangir Nama*, which describes the military achievements of the Mughals between 1605 and 1627. The region beyond the Northwest Frontier was held by the Uzbeks, the traditional enemy of the Mughals. Campaign against them was not feasible. Also, east of Bengal, the unhealthy jungles and Arakan Yoma range discouraged expansion into Burma. So, the Mughals decided to expand in Deccan. Akbar started the process and Jahangir continued this. *Jahangir Nama* tells us that in 1608, Mahabat Khan,

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a Mughal general, was given 12,000 cavalry, 2,500 foot musketeers, and 80 cannons, plus camels and elephants and ordered to proceed to Deccan. Here, the rocky, mountainous terrain made high-speed cavalry warfare nonpracticable. So, the Mughals had to rely more on foot musketeers and artillery. As in Babur's time, the muskets were fired from wooden tripods.

See also: Fazl, Abul; Timur, Amir (or Tamerlane or Timur the Lame)

Further Reading

Babur, Zahiruddin Muhammad, *Babur Nama*, tr. by A. S. Beveridge, 2 vols. 2nd ed. New Delhi: Saeed International, 1989.

Lane-Poole, Stanley, *The Emperor Babur*. Delhi: Sunita Publications, 1988.

Kaushik Roy

Baghdadi Manjaniqi, Ya'qūb Ibn Šābir

(554–626/1159–1229)

Significance: Baghdadi was responsible for making and using devices or machines by which stones, dead animals that had epidemic diseases, and sometimes even sewage were thrown up to enemies' line. Those machines were called *manjaniq*. The title "Manjaniqi," attributed to *manjaniq*, given to Baghdadi, indicates that he had a great experience in practicing as well as making those machines. In addition, he knew mathematics well to calculate the distance of the army to enemy lines or walls and to form the settlement of those machines in a way that shooting would be accurate. By his carrier and his expertise, he could help the Abbasid army to protect city Baghdad against different attacks. It is said that in the period of the Crusade (11th to 13th centuries), the industry of making and using advanced catapults or *manjaniqs* optimized in wars. Thus, those who had the knowledge or the experience in the art, such as Baghdadi, who lived during that period, can be considered of special significance.

Baghdadi was also the head of a group were responsible for planning a tactic for the army. The tactics included the organization of soldiers, offering a plan for besieging castles of enemy, the definition of places for the settlement of the horseback, the personnel who employed catapults, and the composition of military movements. As historical sources have pointed out, Baghdadi had written a chapter in his book on each part of military engineering.

Context: During his life, there existed many competitions and battles between local and central powers in Islamic territories. In 573/1177, Iraq fell under the domination of a local dynasty of Saljuq princes, the last of whom was Tughril II (r. 573–590/1177–1194). Two major dynasties of the Middle East were weakened; the Ayyubids (r. 564–648/1168–1250) in Egypt and Syria were

preoccupied with the struggle against the Crusaders, and the Khārazmshahs in Persia with their wars against other Turkish dynasties and then against the Mongols. In this power vacuum, al-Nāṣir Li Dīn Allah, 34th Abbasid caliph (r. 575–622/1180–1225) was trying to restore the lost authority of the caliphate in Baghdad. He increased his authority by arranging an army of his own and by making temporary alliances with Muslim and non-Muslim partners to consolidate the caliphate against all kinds of military, political, and ideological attacks. Baghdadi could gain position and legitimacy in the court of al-Nāṣir by serving to his army and by composing some poetry for the majesty of caliph. Showing himself as an emulator of Alid sentiment (attributed to Ali, the son-in-law of the Prophet Muhammad and the first Imam of Muslim Shiite School), using some Sufi teachings, al-Nāṣir called himself a mediator between God and the people. He was also engaged in transmitting some traditions attributed to the Prophet Muhammad. He by reorganizing some comradely federal groups of men, called *Futuwwa* groups, could gain popularity among Sunnite and Shiite people and consequently could decrease their long conflicts. The caliph imagined that philosophers' ideas and their followers may lead to inner disintegration of the society. At the time, Shahāb al-Dīn Suhrawardī (d. 587/1191), a great Iranian philosopher, because of his ideas in religious and political matters, was killed and his body was burnt by the decree of jurists and by the order of the Ayyūbid Sultan Ṣalāh al-Dīn in Aleppo.

Al-Nāṣir, to dominate his competitors, firstly made an alliance with Khārazm Shah to get military support against Ṭughril II, from the Saljuqids, and then after falling of the reign of Saljuqs (590/1194), the caliph found himself confronted with a new power in Sultan Muhammad Khārazm Shah. Because the caliph could not solve his conflict with Khārazm Shah, it is said that he had entered into negotiations with Mongols to encourage them to attack Persia. Even though the details of actual events are not completely clear, one of the greatest tragedies in Islamic history began with the Mongol invasion against the Khārazmids. Al-Nāṣir's successors were weak and when the Mongols, having already conquered Persia, appeared before Baghdad in 656/1258, the last caliph al-Mu'taṣim was unable to offer any serious resistance and then the city was invaded (See *Encyclopaedia of Islam*, second version, s. v. "Nāṣir Li-Dīn Allah, Abu 'L 'Abbās," vol. 7: 996b ff.).

Biography: Baghdadi originally was from Harran, close to the board of Turkey and Syria, but born in Baghdad in 554/1159. It is mentioned in an unusual report that he was born in 593/1196 and died in 675/1276. A little is known on his life and the whole information that is available was quoted non-chronologically by his contemporary biographer Ibn Khallakān (d. 680/1281) concentrating on quoting Baghdadi's poems by which he praised the Abbasid caliphs or he reproached Sufi's ideas and behaviors. Later biographers, more or less, repeated what would be found in Ibn Khallakān's work. Baghdadi at

first was employed as an ordinary member of the army, working in the group of whom used *manjaniq*, but later he was known as a famous engineer, in the narrow sense of the word, champion and maker of different weapons such as sword and *manjaniq*. Even it is reported that he became toward the end of his life the head of engineers and nobody could compete with him in the skills. Among his poems, one can find two in which he introduced himself as a lover and an innovator of making and using *manjaniq* to kill the enemy and to expand the Muslim territory. It is said that he was honorable, good tempered, and well spoken.

Two books are attributed to him; one of them is a collection of his poems *Maghānī al-Maʿānī* and the other one which, according to biographers, remained incomplete is *ʿUmdat al-Sālik fī Siyāsati al-Mamālik* [*The Principle of Disciple in the Policy of Countries*]. The latter, which a little content of it is quoted in later works, in accordance with historical sources, concerns military matters such as the history of wars, how to use the weapons especially *manjaniq*, how to organize the army, how to engineer the war, how to compose military moves, etc. A copy of this book, as far as we know, is not available but in the later military works it is frequently mentioned as one of the essential references in this field.

Influences: The relevant sources are silent on mentioning the names of Baghdadī's instructors as well as his disciples in the military field. They, however, introduced some people as his teachers and his students in literary fields, especially in the task of composing poems, which are beyond of the scope of this study.

Further Reading

The earliest Baghdadī's biography written by Ibn Khallakān, *Wafayāt al-Aʿyān wa Anbāʾu Abnāʾ al-Zamān*. Ed. By Ihsān ʿAbbas, Beirut: Dār al-Thiqāfa, n. d., vol. 7: 36–46. Latter biographers more or less reproduced the information in their works. Then, most historical primary sources by which one can gain information concerning the context of the caliphate in Baghdad and its relation with other local governments at the time are in Arabic or Persian. However, reading following articles is suggested:

Bosworth, C.E., "The Political and Dynastic History of the Iranian World," in *The Cambridge History of Iran*. Ed. by J. A. Boyle, Cambridge: Cambridge University Press 1968, esp. 167–178, 183–202.

The Encyclopaedia of Islam, second version. s. v. "Nāṣir Li-Dīn Allah, Abu ʿL ʿAbbās" by Angelika Hartmann, vol. 7: 996b ff. Leiden: Brill, 1960–2004.

Furthermore for knowing the role of '*manjaniq*' in the Muslim army, see, *ibid.*, s. v. "Mandjanīk" by D. R. Hill, vol. 6: 405–406.

Bana

(ca. seventh century CE)

Significance: Bana was the first known Sanskrit prose writer to write in praise of his patron. The chronicle, entitled *Harsacharita*, furnishes historical details about Harsavardhana or Harsa (606–648 CE), the ruler of Kanauj and, together with the Chinese traveler Hsuan-Tsang’s account, provides the best literary source concerning immediate post-Gupta Indian history. Bana had access both to the royal court and familiarity with the low castes in the north Indian society. He throws light on army structure, and on weapons, logistics, and objectives of war, with particular focus on the importance of elephants and horses, and on the control of various contingents on contemporary Indian battlefields.

Context: Bana portrays Harsa’s kingdom as a decentralized realm. Unlike the Maurya Empire, the Gupta Empire, which came into existence during fourth century CE, was characterized by small kings with considerable autonomy. A major portion of the Gupta Empire was ruled by feudatories and Gupta civil administrative fabric was weak. In contrast to the Maurya monarchs, the Gupta emperors did not possess a large standing army, and troops supplied by the feudatories comprised a large portion of the Gupta army. The Guptas also did not enjoy a monopoly on elephants and horses, two crucial instruments for waging warfare in India.

As soon as Gupta central government was weakened due to the invasions of the Huns, the feudatories proclaimed independence. After the Gupta collapse in the sixth century CE, numerous small principalities, based upon earlier feudatories, dotted the subcontinent. Most prominent of these was the Pushyabatis of Thaneswar. Post-Gupta regional kingdoms were characterized by decentralized administrative structures and feudalism. Its political expression was the *samanta* system, in which the king was at the top and below him was a hierarchy of *mahasamantas* (big vassals) and *samantas* (small vassals). The *samantas* were ranked in accordance with the size of land granted to them and their ranks in the court. The practice of assignment of land in perpetuity and the creation of fiefs became more common. The grantees discharged administrative duties in lieu of land assignments, and gradually replaced the centralized bureaucracy initially created by the Mauryas. Sub-infeudation was seen more often. The landed intermediaries acquired the right of imposing various taxes and *vishti* (forced labor). Peasants, artisans, and merchants were transferred along with the land to the grantees, had to obey the commands of the grantees, and had to remain attached with the donated land. Decline of commerce and de-urbanization resulted in autarchic village economies, which strengthened the landed magnates’ stranglehold over the polity and economy. The net result was parcellization of sovereignty. Royal dynasties did not have fixed capitals—the monarch was always on the move to deter dangerous feudatories.

Harsacharita also deals with the invasion of the Huns, who occupied Bactria and threatened India during the reign of the Gupta monarch Kumaragupta (415–454 CE). Toward the end of fifth century CE, the Huns entered India. They were excellent archers and skillful horsemen, and probably used metal and wooden stirrups. This triggered a Hindu military response, including the use of saddles and saddle clothes on horses. The paintings on the Ajanta caves show that in fourth century CE, bits were used for controlling the horses. The dissolution of the Gupta Empire coincided with the establishment of the Hun kingdom in northwest India.

Biography: Bana, also known as Banabhatta, was born in a family of intellectuals, whose forefathers had enjoyed the patronage of the Gupta monarchs. Bana imbibed the knowledge of the *shastras* (religious literature) and the *puranic* (genealogical lists of the mythical as well as ancient historical kings of India) tradition. After the death of his father, Bana mixed with undesirable characters and became a sort of wanderer. While wandering across north India, Bana was introduced to Harsa. Initially, Harsa, who himself was a poet, was skeptical about Bana's abilities, but he later honored him.

Influences: Bana's concept of interstate relationship is derived from Kautilya's *Arthashastra*, written around 300 BCE. Bana divides states into three categories: friends, neutrals, and enemies. Bana's vision of empire as a loose federation of allies dominated by the *vijigishu* (the universal ruler or the ideal monarch) is similar to that of Kamandaka in *Nitisara*, written in the century before *Harsacharita*. Like Kautilya and Kamandaka, Bana does not accept the compartmentalization of warfare into conflict with external powers and internal pacification. In agreement with them, he argues that external threat and internal insurgencies act and react with each other, and that some internal rebels should ideally be co-opted by the paramount power.

Unlike Kautilya, Bana is a proponent of *dharmayuddha* (just war). Bana, in the novel *Kadambari*, writes that Kautilya was wicked and cruel. The execution of the Maurya Emperor Brihadratha in 187 BCE, by his *senapati* (commander in chief) Pusyamitra Sunga, writes Bana, is an example of the worst form of *kutayuddha* (unjust war).

Bana is also influenced by Somadeva Bhatta, who wrote *Kathasaritsagara* around 500 CE. *Kathasaritsagara*, a collection of tales, throw light on contemporary society, polity, and morality. *Kutayuddha* is propounded in parts of *Kathasaritsagara*, and Bana advises that, although an ideal king should not conduct *kutayuddha*, he must be aware that his enemies might practice such warfare. Bana advises that the *vijigishu* should follow righteous warfare stipulated in certain tales of *Kathasaritsagara*. The threat of using force and alliances are the mechanisms for expanding state power. Initially, a defeated ruler should be allowed to rule as a vassal. But, if he revolts, he should be killed.

In central India, most of the Hindu kings' armies, says Somadeva Bhatta, relied on elephants. The best elephants, says Bana, following Somadeva Bhatta, were acquired from Kamrup (Assam). *Harsacharita's* discussion on the role of elephant doctors in the army is influenced by the discussion in *Agni Purana* (a collection of verses by unknown authors composed around 500 CE). The king, says *Agni Purana*, should appoint people with special training to look after the war elephants.

Bana, following Somadeva Bhatta, also emphasizes the mobility of the cavalry. Somadeva Bhatta compares good horses with gods and *Kathsaritsagara* hints at the danger posed by the cavalry of the *yavanas* (Indo-Greeks, Kushanas, and the Sakas) along northwest India. Indian kings are warned to maintain grasslands for their own cavalry.

The Theory: Bana's *Harsacharita* is a historical fiction. He is not a historian but a poet and an epic bard, decorating his tale with fancy and fantasy, and adding spicy romantic tales and adventure stories. In contemporary Sanskrit literature, the idea to be conveyed was concealed beneath the verbiage of metaphors, imageries, adjectives, and complicated adverbs. Bana's prose is a typical example of stylistic pleonasm, and he created a new style of prose writing by applying all the rhetorical devices of *kavya* (poetry) to prose. However, in Sanskrit terminology, *Harsacharita* is categorized as an *akhayika*, which means a story somewhat romanticized but rooted in authentic historical tradition. As the outline of the tale is factually correct, it is a useful source for inferring the doctrines of force structure and utilization of Harsa-era Indian armies.

Harsacharita is divided into eight chapters and the narrative follows a linear chronology. Chapter 4 discusses the story of Prabhakarvardhana, the ruler of Thaneshwar from 585 to 606 CE, who checked the Huns and defeated the rulers of Sind, Gujarat, and Gandhara (Kandahar in Afghanistan). Prabhakarvardhana's queen Yasomati gave birth to two sons named Rajyavardhana and Harsavardhana (Harsa) and a daughter named Rajyashri. The latter married Grahavarman of the Maukhari family, who ruled at Kanyakubja. Chapter 5 tells us that when Rajyavardhana and Harsha were engaged in fighting the Huns, Prabhakarvardhana died. Meanwhile, the king of Malava (central Punjab) assassinated Grahavarman, and kidnapped Rajyashri. Chapter 6 portrays how Rajyavardhana and a cavalry contingent numbering 10,000 attacked the Malava king. Harsa, with main body of the army, composed of infantry and elephants, followed behind. The king of Malava was defeated. Then Sasanka, the king of Gauda (Bengal), invited Rajyavardhana for a meeting where Sasanka treacherously killed Rajyavardhana. Bana thoroughly criticizes this expression of *kutayuddha*.

After the murder of his elder brother, Harsa manipulated the ministers to confirm his succession. Then to legitimize his succession, Harsa resolved to avenge the death of Rajyavardhana. Although Harsa's *senapati* Simhananda applauded

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the king's decision, the chief of his elephant division warned him against the treachery and political intrigues of the vassal rulers.

An account of Harsa's military campaign is given in Chapter 7. Like a *vijigishu*, Harsa after ascending the throne followed the policy of *digvijaya*. The literal meaning of *digvijaya* is conquering the world, but its actual meaning is establishing a pan-Indian empire. Harsa set out with a huge army, captured Kanauj and extended his sway over eastern India and Kalinga (Orissa). Harsa's tributary rulers included those of Nepal, Jalandhar (Punjab), Kashmir, Valabhi and Kamrup.

Bana refers to the conches, kettledrums and various types of banners for commanding the various military units in the battlefield. Under Harsa, the war elephant department was placed in the charge of Skandagupta (not to be confused with the last great Gupta Emperor Skandagupta). On top of the elephants iron plated *howdahs* (box-like seating arrangements) were placed from which the warriors discharged arrows at the enemy soldiers. Elephants were acquired, writes Bana, by the forest rangers employed by Harsa. The rangers had emissaries who collected information about the movement of the elephant herds. In addition, the autonomous forest tribes occasionally presented elephants to their political overlord, Harsa. Sometimes elephants were taken from the defeated rulers and also as tributes from the tributary kings. Harsa's army maintained elephant doctors. For training the young elephants in battles, figures of elephants were used.

Occasionally, a cavalry contingent was used for rapid pursuit of the enemy and for making sudden attack. Mounted archers on Kamboja (Gandhara) horses are mentioned in *Harsacharita*. The riders were equipped with bows with leather quivers tied at their back, and wore soft dark trousers and tunics with Chinese cuirasses. The king commanded on the battlefield by riding on horses, and not on chariots as was the practice in the Vedic era. The best horses were acquired from Kamboja, Sindhu (Indus region), and Persia (Iran). Because Kamboja and Sindhu were under the control of the Huns, continuous clashes occurred between the Harsa's kingdom of Thaneswar and the Huns.

For logistical purpose, Bana mentions utilization of camels. Oxen and hired porters were also used for conveying supplies. In accordance with the custom of *vishti*, villagers were forced to provide supplies for Harsa's military camp. The infantry was used for collecting provisions from the villagers and for preparing the road through which the army marched. Many village headmen appealed to Harsa for protection of their crops from the rampaging soldiers.

The foot soldiers, says *Harsacharita*, wore half-sleeved tunics, trousers or *dhoti*, waistband, and sandals with ankle straps. From Gandhara sculpture, it is clear that the sandals resembled those worn by Roman legionaries. Long swords, round shields, spears, and daggers were the principal infantry weapons. The shield was made of leather and circular in shape. In general, the soldiers were protected with armor. However, the arrows used by the Huns were dangerous and penetrated even the armor. The wounds were dressed with long white bandages. Forts

protected by moats and rock walls are also mentioned in *Harsacharita*. After victory in a campaign, overseers were appointed to take charge of the booty.

Harsa wielded power over a feudalized realm. As evident from *Harsacharita*, Harsa ruled from various camps to deter the feudatories from rebelling. His standing army was small and it was supplemented during campaigns by the contingents bought by his *samantas*, *srenibalas* (soldiers provided by guilds), and semiautonomous tribes. For example, a forest tribe named Sabaras in central India had their own army. Harsa allowed them autonomy in internal administration and in return the Sabaras had to provide military contingents for Harsa's campaign, where they were placed under one of his commanders. The combat effectiveness of such a composite army was bound to be low.

Bana describes Harsa's army breaking camp at dawn before marching. Barrack superintendents were in charge of the camp. Thousands of torches were lit to dispel the darkness of early morning, and were accompanied by shrill words of command from the marshals. The horses were saddled and the elephants were loaded with a cargo of utensils. High born nobles' wives, other women, large number of other noncombatants, and numerous baggage animals accompanied Harsa's army, which was not capable of quick mobility. Abandoned grain was looted by the local poor when the army marched off.

Hsuan-Tsang wrongly ascribes the presence of a chariot corps in Harsa's army—Bana does not refer to it. In the post-Gupta period, for the big military powers within India, chariots had become useless. This is evident from the accounts of other Chinese travelers and Muslim chroniclers. According to Yuaan Chwang, who visited north India during the first half of the seventh century CE, the force structure of Harsa during his accession included 5,000 elephants, 29,000 cavalry, and 50,000 infantry. Toward the end of his life, Harsa increased the size of his army, and the elephant and cavalry corps were expanded much more compared to the infantry. Hsuan-Tsang and Bana agree that Harsa increased the number of cavalry from 20,000 to 100,000. Each elephant was probably accompanied by four to six soldiers, and the total number of elephant soldiers in Harsa's army numbered 60,000. The increase in the number of elephants was stimulated by Harsa's enemy Pulakesi II's reliance on elephants.

Bana, being a court poet of Harsa, could be accused of writing a biased account of his patron. Even Hsuan-Tsang, the Chinese Buddhist pilgrim, was pro-Harsa, because Harsa embraced Buddhism. Therefore, a critical comparison of *Harsacharita* and Hsuan-Tsang's account is not helpful. Certainly, *Harsacharita* exaggerates the achievements of Harsa. In his career, Harsa suffered many defeats, which were glossed over by Bana. For example, Harsa clashed with Pulakesi II of the Chalukya dynasty, the ruler of Badami (Karnataka), sometime between 630 and 633 CE, partly over access to elephants, and Harsa was defeated. Harsa's campaigns in west India also did not bring much success. Far from establishing a pan-Indian empire, Harsa, despite the assertion of Bana, could not be justified in taking his title of *sakal uttara patha natha* (lord of north India).

Application: *Harsacharita*'s description of an increase in the size of elephant corps was justified by events following the collapse of Harsa's empire, when the Rashtrakutas of Deccan, the Palas of Bengal, and the Gurjara-Pratiharas of west India fought for domination of Kanauj. The wide plains of north India and Punjab were suited for large-scale, mobile cavalry battles. However, elephants and infantry were more suitable than cavalry in the mountainous and forested region of central India, especially along the Vindhya Mountain range where most of the battles occurred. In the post-Harsa era, soldiers with bows and arrows from the *howdahs* decimated the infantry. The elephants were also used to storm fortresses, and were designated as mobile forts.

The tri-polar army comprised infantry, cavalry, and elephants, as described in *Harsacharita*, became the typical force structure of post-Harsa Hindu armies. Al-Utbi commented that in 1001 CE, the army of Jaipala, Raja of Bhatinda, was composed of 300 elephants, 12,000 horses, and 30,000 foot. In *Tabaqat-i-Akbari*, Nizamuddin Ahmad places the strength of Chandella's army in 1019 CE at 390 elephants, 36,000 horses, and 145,000 infantry.

Bana's description of a cavalry force as an independent tactical arm, both for long range reconnaissance and as a strike force, was emulated by the Gurjara-Pratiharas. In 851 CE, Sulaiman noted that the Gurjara-Pratihara King Mihir Bhoja employed large numbers of cavalry in a tactically independent mobile capacity, thereby checking the expansion of the Arabs from Sind. The Gurjara-Pratihara's cavalry was considered the best among the Indian powers because of that power's proximity to the sources of supply.

The use of camels as beasts of burden for the army, as advocated by Bana, increased with time. The Gurjara-Pratiharas maintained a camel corps that supported their armies when it fought the Arabs of Sind in the desert of western Rajasthan. The camels were acquired from Gujarat. From the eighth century CE onward, camels became an essential part of the Rajput armies operating in Rajasthan. Most of the camels were procured from Sind.

The trend toward the "privatization" of warfare strengthened in the early medieval era. Business corporations such as the guilds of silk weavers in west India maintained private soldiers. In fact, several traders' corporations in south India such as *Vira-Valanjiyas* (made up of low-caste communities) and *Kaikollars* (silk-weavers' guild of Tamil Nadu) provided armies when the Chola and Sri Lankan monarchs went to war.

Descendents: Some later writers within the Hindu intellectual tradition, in contrast to Bana, gave more importance to cavalry. The Jain intellectual Somadeva Suri (not to be confused with Somadeva Bhatta the author of *Kathasaritsagara*), writing in 10th century CE in his *Nitivakyamitra*, noted that cavalry provides mobility and that, to emerge victorious, a king must be strong in cavalry. The Chalukyan Emperor Somesvara (1127–1138 CE) comments in *Manasollasa* that a strong cavalry force is essential for conducting offensive and defensive campaigns. Somesvara, following Bana, wrote that the best horses came from Sind

and Kamboja, but by his time, due to the Arab invasion of Sind in the eighth century CE, good horses were also imported from Arabia. Kalhana's *Rajatarangini* (composed between 1148 and 1150 CE in Sanskrit) describes how the rulers of Kashmir expended vast treasure in buying horses from Afghanistan and Central Asia. The Suleiman Mountains west of Indus also became famous as a horse-breeding area.

From *Harsacharita*, it is clear that Harsa's army depended on organized looting and forced contributions from the countryside. By contrast, Sukra's *Sukranitisara*, written around the ninth century CE, recommends a well-organized state-supported logistical infrastructure. Sukra also focuses on the linkages between operational efficiency and logistical sufficiency. To prevent indiscipline, says Sukra, the soldiers were not to be allowed to engage in plundering, and the ruler is advised to open markets inside the camp for distributing supplies to the soldiers.

See also: Hindu Tradition of Just and Unjust War; Kamandaka; Kautilya; Use of Elephants in Indian Warfare

Further Reading

Banabhata, *The Harsacharita*, tr. by E. P. Cowell and P. W. Thomas, ed. by R. P. Shastri.

Delhi: Global Vision Publishing House, 2004.

Devahuti, D., *Harsha: A Political Study*. Oxford: Clarendon Press, 1970.

Jha, D. N., *Early India: A Concise History*. New Delhi: Manohar, 2004.

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

Kaushik Roy

Basta, Giorgio, Count of Huszt

(1544–1607)

Significance: He was the first known Early Modern European theorist who published on light cavalry operations.

Context: Basta served the Emperor Rudolf during the “long” Turkish War 1591–1606. Too little is known of military thinkers of the late 1500s to give a picture of Basta's intellectual milieu.

Biography: Basta, the Imperial governor in Transylvania in the early 1600s, was of likely Albanian descent, and is a figure of some controversy in the Balkans. Although successful, he was also notorious for his ruthless efforts to root out Protestants from Transylvania.

Descendants: Included are potentially Wallenstein, Montecúccoli, other Thirty Years commanders, and “petit guerre” practitioners.

Further Reading

Basta, Giorgio, Count of Huszt, *Maestro di campo generale* (Venice, 1606).

Basta, Giorgio, Count of Huszt, *Guerro della cavalliera leggiere* (Venice, 1612).

Erik A. Lund

Bonaparte, Napoleon

(1769–1821)

Significance: Napoleon ranks as the first master practitioner of modern war. He was only in part its inventor. Many of the changes he wrought in 20 years of European conflict derive from in the ideas of Pierre-Joseph de Bourcet (1700–1780), Comte Jacques de Guibert (1743–1790), General Jean-Pierre Duteil (1722–1794) and his younger brother Chevalier Joseph du Teil (1738–1820), and the French Revolutionary reformer Lazare de Carnot (1753–1823). However, his systematic application of those ideas makes Napoleon the most important innovator of the 19th century.

From 1802 onward, in which he initially became First Consul and later emperor, Napoleon was simultaneously the sovereign of France and its supreme military commander. Combined with his extraordinary military, political and administrative talents, this situation facilitated the closest integration of national policy with the prosecution of war; sped the implementation of decisions; and enhanced Napoleon's ability to revise his diplomacy in response to changing military conditions. The Napoleonic Wars are an appropriate label for a period of transformation, above all of the scale of European warfare. Campaigns typically involving ten of the thousands of troops came to consume hundreds of thousands.

Napoleon was not foremost a military theorist. He wrote about and discussed what he understood as the principles of war, yet he never gave them coherent and comprehensive expression. He was both a gifted and a studied practitioner of military campaigning and battlefield tactics, with an intuitive grasp of the relationship between tactical and strategic dimensions of war. He was, most importantly, a genius of practical innovation, able to recognize the utility of new ideas and discard tradition unsentimentally. He is noted specifically for the introduction of the combined-arms *corps d'armée* and the quadrilateral formation of *bataillon carré*. Applied together, this gave his strategic maneuvering flexibility, aimed at forcing his opponent to accept decisive battle and thereupon to face Napoleon's annihilating aggression. Between 1804 and 1809 in particular, Napoleon chalked a series of spectacular victories that revolutionized European warfare and began its evolution toward the total wars of the 20th century. Napoleon's shocking success greatly stimulated the theories of Clausewitz and Jomini, under whose pen a Napoleon legend first took shape. It remains compelling for many students of military history today.

Context: The French Revolution created the circumstances in which a soldier of Napoleon's abilities and background—an opportunist of aristocratic origin with neither loyalty to the aristocracy nor love of democracy—could prosper professionally. The revolution coincided with changes in thinking about the conduct of war during the last decades of the monarchy. The military literature of the late Enlightenment proposed reforms in both military institutions and practices. These, although partly implemented by the *ancien Régime*, were given new vigor by the Jacobin leadership and the directory. Not only did the revolution need to defend itself, but its export throughout Europe was also integral to republican ideology. The critical feature of both imperatives—and the cornerstone of war as Napoleon prosecuted it—was the adoption by the directory of universal conscription. This produced French armies of an unprecedented size and posed new organizational problems, which recent military literature answered in part, but which had to be mastered and refined in the application.

Fortunately for Bonaparte's generation of French officers, the revolution occasioned war between France and much of the rest of Europe. The size of the army's staff expanded and the avenues of upward mobility for officers increased. The Revolutionary Wars provided opportunity for new talent to prove itself. Of these, Napoleon was the foremost: British Prime Minister William Pitt exaggerated only slightly with his observation that initially, Napoleon was the revolution's "child and champion."

Biography: He was born Napoleone da Buonaparté in Ajaccio on Corsica in 1769 to parents descended from lesser Tuscan nobility. At age 10, Napoleon was sent to a religious school at Autun in Burgundy and from there to a cadet school at Brienne in Champagne, where as a withdrawn but industrious student he demonstrated a facility in history, mathematics, and geography. At 15, he was nominated as a *boursier* for the *École Royale Militaire* on the Champs de Mars in Paris. Whereas the average cadet at the *École Militaire* required from two to three years to complete the curriculum, Bonaparte completed its passing out examination after one year. At 16, he was commissioned as a second lieutenant in the royal corps of artillery and was stationed with the La Fère artillery regiment in Valence-sur-Rhône.

In 1787, the regiment moved to Auxonne. Here, it functioned as depot for the School of Artillery commanded by Major General Jean-Pierre Duteil, among the most distinguished gunnery experts in the French army. Napoleon was thus able to learn the latest technical and tactical developments in artillery. His zeal prompted Duteil to nominate him to serve on a committee tasked with determining how explosive rounds might be fired from long-barreled guns. Duteil became first a formative influence, and then a friend and advisor. In addition, Napoleon tackled a strenuous self-education in the lives of Alexander, Hannibal, Caesar—training his memory by composing a digest of every book he read—while familiarizing himself in a particularly timely fashion with Rousseau's ideas in the *Contrat Social*. By the outbreak of the revolution, Napoleon had supplemented his military instruction

with an education in history and a sense of the political ideas behind the upheavals of his time. When in 1791 the new National Assembly ordered all officers to sign a pledge of allegiance, Napoleon declared himself for the republic.

In August 1792, Napoleon was promoted to captain. The following year, Revolutionary France, now at war with Britain, the Netherlands, and Spain, sent him to assist in the recapture of Toulon from Royalist forces backed by British and Spanish units. Though a junior commander, he organized its artillery and contributed to the victory all out of proportion to his rank. The assault, which he planned and led with reckless physical courage, launched Napoleon's military career. A promotion to *général de brigade* followed. Napoleon's career was then imperiled with the fall of Robespierre in July 1794 and the arrest of Jacobin sympathizer. Even after his release, he was not restored to his former artillery command. Rather, his next engagement tested his loyalty to the Convention by pitting his guns in its defense against the royalist rising of the 13 Vendémiaire in Paris. The "whiff of grapeshot" with which Napoleon put the rising to flight was a pivotal event for both the republic and himself. As the reward, Napoleon sought and received command of France's beleaguered army in Italy. A major command in Lazare Carnot's reformed army—and the raw material of an entirely new war machine—came into the hands of the republic's most gifted general. The Napoleonic era of warfare got properly underway.

Influences: Along with the large conscript army initially conceived in Carnot's *levée en masse*, Napoleon also inherited a substantial legacy of 18th-century doctrinal thinking and military reorganization. He employed and refined these in rapid, flexible, and massively destructive offensive operations.

Napoleon had absorbed the ideas of Marshal Count Maurice de Saxe on increasing the mobility and maneuverability of armies, and creating self-contained, all arms "legions"—in substance the forerunner of the "division." Saxe also envisaged the use of swarms of skirmishers to precede the main infantry assault on an enemy force. After 1750, these principles became common to French battle tactics.

Direct and important influences include Bourcet and Guibert. The former insisted that an attacking army should advance in parallel columns to converge at the critical time and place for advantage of weight in numbers. The latter stressed maximum battlefield maneuverability and advised that a campaigning army must live off the country it occupied.

Napoleon also learned from Jean-Baptiste de Gribeauval, who rationalized the distribution of the calibers of cannons according to their use for siege, infantry, or cavalry support. This reduced the weight of equipment without loss in firepower or range. Napoleon's instructor at Auxonne, General Jean-Pierre Duteil, taught this system to his star student. His younger brother, Jean "the Chevalier" du Teil, Bonaparte's immediate superior at Toulon, promoted the use of light and rapid horse artillery to support cavalry in the French army, in imitation and improvement of their use by Frederick "the Great" in the Prussian army during the Seven Years'

War. Although Bonaparte read Frederick's biography during his time at Auxonne, the king's direct impact on Bonaparte is difficult to measure.

The Theory and Application: Napoleon was therefore primarily a synthesizer of the ideas of his predecessors, and a brilliant practitioner, who refined and improved the theories of preceding generations.

His first use of strategic maneuver with combined-arms forces—and first stage of the incremental development of a Napoleonic “theory” of war—came in the Italian campaign of 1796–1797. His recovery of a badly deteriorated French situation initially involved an offensive to strike Austro-Piedmontese forces. This divided them and subsequently allowed him to rout the Austrians alone at Lodi. In this engagement, he confronted the Austrians with two divisions after executing a forced march of 115 kilometers in two days, and completing a *manoeuvre sur les derrières* of the Austrian army. He later repeated the maneuver at Bassano near Mantua and personally led an assault of grenadiers across a bridge at Arcola. Ultimately, he directed his army in three separate columns to concentrate at Rivoli to defeat another Austrian army and thereafter open up a strategic offensive against Austria itself.

Napoleon's Egyptian campaign of 1798 was notable for impressive forced marches, but also for the spectacular victory over the Mamelukes in the Battle of the Pyramids. However, after Nelson destroyed the supporting French fleet at Aboukir Bay, it became an early episode in strategic overextension.

Napoleon seized power from the Directory in the *coup d'etat* of 18 Brumaire in 1799, as the war of the Second Coalition threatening France with invasion. With Italy lost and France's position in Germany imperiled, Bonaparte began to fashion a new instrument of warfare with a reorganization as sweeping as the constitutional and administrative reforms he imposed on the nation as First Consul. The centerpiece of change was the establishment of multidivisional army corps, both in Italy and along France's frontier on the Rhine. A corps typically consisted of two or three divisions, including infantry and cavalry, of 8,000 men each. Each division broke down into two brigades, each brigade into two regiments, and each regiment into two battalions. Commanded by a single general, a corps featured such a mixture of infantry, cavalry, artillery, engineers, and service troops. This made it capable of independent operations. Its size, self-reliance and unity of command made it the basic maneuver element of all Napoleonic armies.

Napoleon instructed his chief of staff, General Louis-Alexandre Berthier, to assemble an army of reserve some 60,000 strong at Dijon. The reorganization began formally on March 1, 1800, when Napoleon instructed General Jean-Victor Moreau to divide his army of the Rhine into four corps. By 1805, French corps were stationed all over Western Europe so that they could be brought together to deliver battle anywhere with the necessary speed and weight of numbers.

The first test of these forces was the campaign of April–June 1800 in northwestern Italy, which climaxed at Marengo. Napoleon used five different passes through Switzerland, and the campaign achieved Bonaparte's fundamental goal—despite

some severe logistical problems—of presenting the Austrian army in Italy with French forces converging on it from the west, north, and east. However, at the climatic engagement Napoleon divided his forces to prevent an Austrian escape and was caught at a disadvantage when they instead attacked. A desperate battle was won with the timely arrival of French reinforcements, but a strategic masterpiece was nearly squandered. Although Marengo was thereafter considered the first great “Napoleonic” victory, its execution was flawed. After Napoleon destroyed the main Austrian army at Hohenlinden, the Peace of Lunéville of 1801 secured for France the left bank of the Rhine.

A more impressive piece of maneuver and encirclement came at Ulm in southern Germany during the war against the Third Coalition in October 1805. The campaign involved seven corps totaling 200,000 men in an unprecedented effort in coordinated marching. It took the main force from jump-off points around the middle Rhine and lower Main Rivers into Swabia and Bavaria in an easterly and then southerly direction toward the Upper Danube. Simultaneously, six mounted divisions screened its size and direction. This encouraged the Austrian commander, General Karl Mack, to believe that the French were invading Bavaria by way of the Black Forest. As he marched west toward Ulm to engage, the main French forces swept south in a wide arc east of Ulm. They cut Mack off from a supporting Russian army and then caught his army in a pocket formed by the convergence of the French corps. After futile breakout attempts, Mack surrendered his army. For this prize Napoleon paid with only 1,500 dead and wounded. The Ulm encirclement was essentially a repeat of *manoeuvre sur les derrières* at Piancenza in 1796 with vastly improved communications and coordination.

Ulm was atypical of Napoleonic battles in its comparative lack of bloodshed. Usually, the initial dispersal and ultimate concentration of forces, as witnessed at Marengo and Ulm, kept an opponent guessing as to size and disposition of French armies, until he was suddenly presented with a numerically larger and singularly aggressive enemy. Skirmishers and sharpshooters went ahead of the main force to further mask intentions.

Ever the artilleryman, Napoleon took care both to concentrate massive fire from his guns on key points of the enemy columns. Unnerving enemy troops with smoke and thunder was as important as killing them—and usually the prelude to killing them in large numbers. Once powerful infantry columns had revealed a weak point in the enemy position with repeated bayonet attacks, Napoleon would pitch into it with his reserves until the enemy buckled, whereupon he would send in his cavalry to achieve deep penetration of the enemy ranks, followed by panic and their destruction.

With the hard marches of his dispersed army corps, Napoleon sought, above all, their sudden concentration for a decisive battle that would conclude an entire campaign with a crushing victory of strategic consequence. Austerlitz was such a victory. There, on December 2, 1805, he sought to draw a numerically superior Austro-Russian Allied army to take the offensive against him by feigning weakness in first occupying and then conceding the high ground of the Pratzen Heights.

After ordering the corps of Bernadotte and Davout to converge on Austerlitz by forced march, he lured the Austro-Russian army into a trap. The Allies fled to escape envelopment, but a third of the Allied army was destroyed, breaking the Third Coalition.

The thorn in this success was Britain, whose navy shattered the combined fleets of France and Spain off Cape Trafalgar in October 1805, ending the chances of a French invasion of Britain and exposing France to strategic vulnerability as long as Britain opposed Bonapartism. However, this vulnerability was not terminal to military success on the continent until Napoleon tested the limits of his way of war in Russia and Spain.

In the meantime, Napoleon's advantage lay with strategic maneuver, battlefield tactics, and, not least of all, a superior army. Its basic unit, the corps, was typically commanded by a marshal, a rank created by Napoleon upon his elevation to emperor in May 1804. The title *Maréchal de l'Empire* was restoration of the royalist *Maréchal de France*. It was initially bestowed upon 18 of his leading generals, and by 1815 Napoleon had created 26 marshals. True to its revolutionary roots, the *Grande Armée* had a strong meritocratic bent. Marshals came from diverse social backgrounds, yet were uniformly brave and experienced. In fact, marshals, generals, and other officer ranks routinely displayed the same reckless disregard for danger that made the emperor's reputation. This boldness both greatly increased the combat effectiveness of the army and contributed to high casualty rates among officers. Although only two marshals, Davout and Massena, are thought to have had the intellect for independent command at the highest level, most were infused with the Napoleonic temperament: audacious, hyperactive, impatient. Down the ranks, the officer corps possessed many experienced veterans from the royal and Revolutionary armies. Admission to officer rank could be had through military school, transfer from foreign regiments taken into French service, or spot promotion on the field. Although few spot promotions subsequently rose higher than captain, the *Grande Armée* offered its men greater opportunities for promotion than any other national army.

The French army's total strength in 1805 was 176,000 men in 20 divisions and 11 cavalry divisions in 7 corps and 286 field guns. Under the Jourdain Law, dating to 1798, approximately one and a half million men were conscripted between 1800 and 1815. The organizational effort required to move hundreds of the thousands of troops in separate corps over unfamiliar countryside and along roads of variable quality according to the season required thorough planning and crisp staff work. When successful, it orchestrated the corps' convergence for the *masse de rupture*, upon which Napoleon relied for a truly crushing victory. In 1796, Berthier wrote a staff manual that became the procedural bible for the French army and established a standard of command and control routinely superior to that of its principal foes.

When after Austerlitz Napoleon turned his attention to Prussia, he was able to trump his enemy with both the size and the quality of its army. Whereas by September 1806 Prussia had 130,000 troops for the defense of its southern frontier,

Napoleon ordered a concentration of 208,000 *Grande Armée* troops for his Jena campaign. The Prussians, victorious over Austria and France in the Seven Years' War, were steeped in the tradition of Frederick the Great, one of Napoleon's influences. However, the mobility and tactical elasticity first developed the French Revolutionary army, and now given systematic application and refinement by the *Grande Armée*, confronted a Prussian army obsolete in outlook. It was drilled in the doctrine of rigid formation, deliberate maneuver, and volley firing, and had its mobility impaired by its magazine system of cumbersome baggage columns. In invading Prussia, Napoleon achieved the strategic advantage of surprise by concentrating his army behind the natural screen provided by the Thuringian forest, and, emerging from the screen into open country, marched north into the heart of Prussia. This placed him on the rear of the enemy. Although Napoleon made mistakes regarding the disposition of the enemy forces, and the Prussians fought well, the resulting confrontation of Jena-Auerstädt was a catastrophe for the Prussian army.

At this point, the size and quality of Bonaparte's army itself became as important as its commander's art of maneuver. With the Prussians broken, he became concerned to bring their Russian allies to decisive battle almost on any terms, confident that his war machine could smash any opponent with pure offensive power. This is essentially what happened at Friedland in 1807. A victory afforded as much by Russian blunder as Napoleonic guile, Friedland had little of the elegance of victories from Marengo to Jena. It introduced the tactic of massed artillery plowing the ground for an infantry assault, but it was also the first battle in which a major portion of Napoleon's army was not French but drawn from allied and occupied powers. This problem with manpower was the first indication of the overstretch that was Napoleon's undoing.

Friedland ended the Fourth Coalition. However, the severity of the terms imposed on Prussia gave a fresh spark to Prussian, ultimately German, nationalism, and Napoleon's creation of the continental system increased the stakes of continuing conflict with Great Britain. As the attempt to strangle Britain economically led to war with Portugal and Spain, it amounted to an error in grand strategy. Indeed, the Peninsular War occasioned the emergence of guerrilla war and made it possible for Britain to inflict significant continuing harm on French armies in Spain all out of proportion to the small direct military effort required. Austria rejoined hostilities against France prematurely 1809: the fact that the "Spanish ulcer" imposed on Napoleon a two-front, east-west war turned out to be of little help to Vienna. As a strain on French resources, however, the continental bridgehead Britain acquired in Iberia amounted to a decisive, though slow motion, defeat for Napoleonic warfare.

Meanwhile, the lessons taught to Prussia at Jena-Auerstädt prompted conscription, the creation of a new type of general staff and, ultimately, the emergence of the Carl von Clausewitz as the preeminent scholar of the "science" of Napoleonic arms. Although they did not resort to conscription, Austria, Britain, and Russia all increased the size of their armies and eroded France's manpower advantage. By

the time Napoleon decided on his disastrous invasion of Russia, the number and professionalism of armies arrayed against him had changed dramatically. Napoleon was thus unable, even at Borodino in September 1812, to extract a decisive victory from a bloodbath that cost him 33,000 men against 44,000 Russians—in part because his enemy had learned how to inflict grievous losses on an invading army while using the strategic depth of Russia to deprive him of a final showdown. Napoleon had marched in 1812 with 600,000 men against Russia, only 270,000 of whom were French. The retreat from Moscow left 300,000 dead and another 200,000 captured.

The Sixth Coalition orchestrated by Britain also included Austria, Prussia, Sweden, Russia, and the smaller German states of Bavaria, Saxony, and Württemberg. After his last truly great victory at Wagram in 1809, Napoleon was still able to produce remarkable feats of arms on the battlefield, but many of these were essentially brilliant rearguard actions. After Wellington's victory at Vitoria in Spain in June 1813, France was threatened by invasion from the north and south. At Leipzig in the same year, three allied armies totaling 335,000 men converged on 190,000 French, to inflict a defeat that opened up a path to Paris. The Hundred Days that led to Waterloo represented the last hurrah of Napoleonic pluck, but little more.

Napoleon Bonaparte developed strategies and operational practices made possible by the great political upheaval of his time. Between 1804 and 1809 in particular he applied them to the development of a way of war for nation-in-arms and, for a time, struck France's enemies with awe. More than any other leader he recognized that delivering an annihilating blow at an enemy's fighting power represented the shortest route to the achievement of war-sustaining political and economic objectives. As the dimensions of his strategic chess board expanded, however, the army organization and command system that served Napoleon well until Friedland unraveled in the face of wholly dissimilar wars fought simultaneously in theatres as far apart as Russia and Spain. France's enemies grew stronger, and the coordination of separate army corps that was possible in Italy and Germany—especially when engaging enemies sequentially—was fatally impaired by the limited means of communications available. However, the circumstances of the Revolutionary Wars that had encouraged a younger Bonaparte to hazard campaigns of an unprecedented scale had shaped his conception of war so completely that by 1809 there was no place in his imagination for limited strategic goals achievable by more modest military means. That a remorseless pragmatist like Bonaparte should even contemplate a project so irrational as an invasion of Russia is testimony that the Napoleonic system had become the master of its creator.

Descendants: Napoleon's most direct intellectual descendent was Baron Antoine Henri de Jomini (1779–1869). A Swiss national who volunteered for the French army and became an aide to Marshal Michel Ney, Jomini was present at Ulm and later served on Napoleon's general staff at Jena and Eylau. Jomini

also saw action in Spain and Russia before defecting to Tsar Alexander in 1813. His explanation for the breakthrough in warfare that France had accomplished under Napoleon was so compelling to subsequent generations—above all for its theoretical clarity and elegance—that he contributed in equal parts to a better understanding of Napoleon as well as to Napoleonic mythology. Self-consciously “scientific” in his pursuit of objective and timeless principles of modern war, he drew from Napoleon certain cornerstone principles: that strategy is the key to all warfare; that strategy is controlled by invariable scientific principles; and that offensive action should mass forces against weaker enemy forces at some decisive point if strategy is to lead to victory. The debt to Napoleon is obvious, but the theorist’s preoccupation with tidiness equally so. Still, Jomini is noteworthy for having offered that war was less a science than an art, and it was his legions of disciples in succeeding generations who oversimplified his principles to the point of distorting the Napoleonic legacy.

Carl von Clausewitz (1780–1831), who experienced Napoleonic warfare through the lens of Prussia’s humiliation, is Jomini’s equal as interpreter of the events of 1796 to 1815, but his superior in transmitting a “philosophy” of war that powerfully influenced generations of Prussian and German officers in particular. Apart from depicting war as an essentially political act and creature of state policy, Clausewitz appreciated the effectiveness with which Bonaparte had repeatedly applied his intellect and energy to the utter destruction of an enemy’s army as the sole legitimate object of a commander’s strategy. Equally, Napoleon demonstrated for Clausewitz that moderation and conventional propriety, common to the military conflicts of the 18th century, would henceforth have no place in the prosecution of war. Rather, the true and essential nature of war as rediscovered and revealed by Napoleon involved the commitment of all resources and every possible violence to achieve comprehensive victory. This interpretation of the Napoleonic legacy became orthodoxy for generations of Prussian officers. It was applied successfully in 1866 and 1870—but disastrously in 1914, possibly because variations of Clausewitz’s ideas had also come to dominate the doctrines of so many of Germany’s enemies.

Among practitioners, the Union commander Ulysses Grant, not the Confederate Robert E. Lee, stands out as the ablest agent of Napoleonic reasoning in the American Civil War. Grant’s campaign against Vicksburg in 1863 was a sweeping *manoeuvre sur les derrières* of the Confederacy and a colossal strategic coup for the Union. Possibly the least Napoleonic personality to ever command an army, Grant nonetheless waged a war of annihilation into the heartland of the Confederacy.

Grant, however, was not the self-conscious student of Napoleon found in Helmut von Moltke (1800–1891). As chief of the Prussian general staff, von Moltke in part succeeded in institutionalizing the “Napoleonic secret” for massive offensive operations. He created the Great General Staff, and used railways to bring about surprise concentrations of troops in overwhelming strength, as in 1870 against a French army whose understanding of Napoleon was inferior to his own.

In a much more diffuse way, the sense that Napoleon had started an evolution of western arms toward total war—a remorseless evolution without alternatives, regardless of circumstance and technological change—actually blighted the military imagination well into the 20th century. Because Napoleon had acquired a mythological status, either as the one true father of modern war or as the inspired interpreter of the timeless verities of war, his name was invoked to justify new schemes for bloodletting in the western front, 1914–1918, that bore little or no relationship whatever to the instincts that first made a reputation at Marengo in 1796.

See also: Bülow, D.; Carnot, L.; Clausewitz, C.; Frederick II (“the Great”); Gribcauval, J.; Guibert, J.; Jomini; Moltke “the Elder”, H.; Saxe, M.; Scharnhorst and Gneisenau

Further Reading

- Blanning, T.C.W., *The French Revolutionary Wars, 1787–1802*. London: Arnold, 1996.
 Esdaile, Charles, *The Wars of Napoleon*. New York: Longman, 1995.
 Howard, Michael, *War in European History*. New York: Oxford University Press, 1976.
 Liddell Hart, B. H., *Strategy*. London: Faber & Faber, 1954.
 Marshall-Cornwall, James, *Napoleon as a Military Commander*. London: B. T. Batsford, 1967.
 Paret, Peter (ed.), *Makers of Modern Strategy from Machiavelli to the Nuclear Age*. Princeton: Princeton University Press, 1986.
 Rothenberg, Gunther E., *The Napoleonic Wars*. London: Cassell, 1999.

Carl Cavanagh Hodge

Bueil, Jean V de

(1406–1477)

Significance: Jean de Bueil’s work describes the changes in European social and military affairs taking place during the Anglo-French “Hundred Years” War.

Context: Jean de Bueil wrote during the Hundred Years’ War when both the social structure and military affairs of Western Europe were undergoing a significant transformation.

Biography: Jean de Bueil was born ca. 1405/1406. His father and uncles were killed at Agincourt (1415) whereupon he became Seigneur de Montrésor and Comte de Sancerre. He fought his first battle at Verneuil in 1424 and earned the nickname *le Fléau des Anglais* (“Scourge of the English”). He campaigned with Jeanne d’Arc in 1429 in the Loire Valley and relief of Orléans. De Bueil was Charles VII’s lieutenant in Anjou and Maine in the late 1430s and took part in the defeat of the Swiss in the battle of Saint-Jacques in August 1444. Named *Amiral de France* (Admiral of France) in 1450, he was one of the senior captains at Castillon in 1453. Dismissed by Louis XI in 1461, he withdrew from court but was

received back into the king's grace in 1469 on account of his military experience and prowess. He died in 1477.

Influences: Influenced primarily by his experiences as a participant in the Hundred Years' War, Jean de Bueil was no doubt familiar with the Classical Greek and Roman military writers. It is possible that he drew upon the work of his near contemporaries, such as Christine de Pizan.

The Theory: Jean de Bueil's military treatise, *Le Jouvencel (The Youth)*, was written ca. 1461–1468. It takes the form of a romance in which a poor noble youth rises steadily in the knightly class only to be disillusioned in the end by foppish courtiers and a fickle king. The tale is clearly autobiographical, and “the youth” embodies Jean de Bueil's own values of knightly honor and love of battle. The author argues forcefully for the continued military supremacy of the knightly class, but recognizes that warfare is changing due to the growing use of gunpowder weapons and the increasing utility of trained infantry. These changes indeed signaled the declining military importance of heavy cavalry. He offers some advice on the use of “machines,” such as using light artillery firing between the shots of the heavy bombards to prevent the enemy's restoration of damage. He also advocates flank protection on the march and provides a clear expression of the psychology of courage in battle, but continues to advocate the static, defensive use of infantry rather than their taking the offense.

Application: There does not appear to have been any direct application of Jean de Bueil's military wisdom, although some 17th-century war memoirists, such as François, the duke of La Rochefoucauld, and Roger de Rabutin, the count of Bussy, echo his views on the ideal military leader.

Descendents: Despite continued enthusiasm for the domination of warfare by the knightly class, by the mid-15th century, the age of the heavily armed mounted warrior was drawing to an end in Europe, and modern warfare, dominated by infantry, firearms, and artillery, was dawning.

See also: Machiavelli; Pizan.

Further Reading

Chan Tsin, Matthieu E., “Jean de Bueil: Reactionary Knight (France).” Ph.D. dissertation, Purdue University, 2005.

“The ‘Companions’ of Jeanne d’Arc and Others,” pages 4–5 [Online, March 2006] at URL <http://xenophongroup.com/montjoie/compngns.htm#bueil>.

de Bueil, Jean, *Le Jouvencel*. Ed. C. Favre and L. Lecestre. 2 vols. Paris: 1887–89. Reprinted, Paris: Slatkine, 1996.

Szkilnik, Michelle, “The Plight of a Warrior in Changing Times” [Online, December 2005] at URL <http://oregonstate.edu/dept/humanities/Newsletter/Spring%2005/Szkilnik.htm>.

Charles R. Shrader

Carl, Archduke of Austria and Duke of Teschen

(1771–1847)

Significance: Interpreter and practitioner of Napoleonic-era grand strategy

Context: Nineteenth century.

Biography: Archduke Carl was younger son of Archduke Leopold, Grand Duke of Tuscany and subsequently Holy Roman Emperor Leopold II, brother to Emperor Francis II, grandson to Maria Theresa, and foster son to Duke Albert of Saxe-Teschen. A slightly built epileptic, he was originally intended for a career in the Church. However, his adoption by the childless Duke Albert led to military training under the military theorist Karl Friedrich von Lindenau. The outbreak of the French Revolutionary Wars saw his appointment as a general in the Habsburg army. Modest success as a column commander saw his rapid promotion as a royal family member. In 1796, he successfully defeated and drove French forces from Germany, although this success was nullified by Napoleon's concurrent victories in Italy. Carl would again command forces in 1798, 1805, and 1809. His greatest military moment came with his defeat of Napoleon at the battle of Aspern-Essling in 1809, although defeat a month later at Wagram led to his permanent retirement. From 1809 to his death in 1847 Carl wrote extensively on military strategy, operations, and tactics, as well as histories of the Napoleonic Wars.

Influences: Karl Friedrich von Lindenau, who experienced the Wars of Frederick the Great, was Carl's most immediate influence. However, Carl's writings mention his love of the classics, especially the work of Tacitus.

The Theory: Carl described war as "the greatest evil that can befall a state." From this tenant, he drew his work on strategy, army operations, and tactics. He must be considered a practitioner and advocate for *limited warfare*, having rejected the efforts of the French Revolution to unleash, as he saw in it "the energies of a people's war." His most original contribution was the creation of the use of geometric lines, called baselines, off which armies could safely operate.

The Application: Realistic about the nature of the Habsburg state and its manpower and resources, Carl attempted to write theory and manuals that were essentially updated and more humane versions of 18th-century practice. He wanted to create literature that would allow officers of modest ability to become professional practitioners, competent if not inspired. In many ways, Carl's work, enshrined as doctrine for the Habsburg military throughout the 19th century, did nothing to inspire reform or modernization.

Descendants: Apart from his son, Archduke Albrecht, Duke of Teschen, he informed the intellectual tradition of the Habsburg general staff.

See also: Bonaparte, Napoleon; Clausewitz, C.; Jomini; Khevenhüller; Lindenau

Further Reading

- Charles, Archduke of Austria, *Ausgewählte Schriften weiland Sr. K. Hoheit Erzherz. Carl v. Österreich*. Vienna and Leipzig, 1862.
- Charles, Archduke of Austria, *Grundsätze der höhern Kriegskunst für die Generäle der österreichischen Armee*. Vienna: n.p., 1806. Reprinted Osnabrück: Biblio-Verlag, 1974.
- Charles, Archduke of Austria, *Grundsätze der Strategie erläutert durch die Darstellung des Feldzugs von 1796 in Deutschland*. Vienna: J. V. Degen, 1813.
- Eysturlid, Lee W., *The Formative Influences, Theories and Campaigns of the Archduke Carl of Austria*. Westport, CT: Greenwood, 2000.
- Rothenberg, Gunther E., *Napoleon's Great Adversaries: The Archduke Charles and the Austrian Army 1792–1814*. Indiana University Press, Bloomington, 1982.

Lee W. Eysturlid

Ch'i Chi-kuang, Senior Commissioner in Chief

(1528–1588)

Significance: Ch'i Chi-kuang's successful leadership of Chinese forces and recorded principles helped reform and invigorate the military forces fielded by the late Ming dynasty (1550–1644).

Context: The Ming dynasty entered a period of decline for much of the 16th century and faced threats from Japanese pirates (Wokou) and multiple Japanese invasions during the Sino–Japanese Korean War (1592–1598).

Biography: Born into a hereditary military family in 1528. Ch'i recruited, trained, equipped, and led Chinese forces against Japanese pirates from 1555 to 1565, and is credited by historians with ending the piracy threat. He died in 1588.

Influences: Ch'i's writings evoke a system of rewards and punishments written in the *Seven Military Classics* by theorists such as Sun Tzu and Wu-Tzu. Ch'i dictated that a squad leader's death would result in the execution of the remaining soldiers and also advised a system of group and individual rewards.

The Theory: Based on Ch'i's experience against Japanese pirates in southern China, and his training of soldiers, he wrote *The New Book Recording Effective Techniques* (Chi-hsiao hsin-shu) and later wrote the *Record of Military Training* (Lien-ping shih-chi) to assist other leaders in creating disciplined forces that could effectively assert the government's desires.

The Mandarin duck formation (Yuan Yang Zhen) consisted of an 11-person unit led by a squad leader with two teams of five: one multiple tipped spear person to entangle the enemy weapon, one shield person to protect him, two spear people to assist in thrusting at the entangled enemy, and one sword person for additional combat power. A single cook accompanied the unit.

Ch'i directed that squads repeatedly drill in coordinating their individuals' respective and mutually supportive functions. Although the function of individual

members remained the same, the specific configuration could be changed between three different models.

Soldiers who faced different types of enemies, such as nomadic horsemen and regular Japanese infantry, benefitted from Ch'i's disciplinary guidelines and grappling techniques. The formation's lack of gunpowder and missile weapons and its creation in the mountainous and jungle terrain of southern China made the formations itself less adaptable on the plains of northern China.

Application: Ch'i successfully applied the duck formation against Japanese pirates where his soldiers earned a reputation for bravery and ferocity in close combat. Li Ru-song, another leader of Chinese forces credited Ch'i Chi-kuang's teaching for "total victory" in the Sino-Japanese Korean War and specifically praised the southern troops in his theatre. The Koreans were so impressed with the skill of Chinese soldiers trained with these methods that they trained exclusively from Ch'i's manual for much of the 17th century.

Descendants: The conquest of China by the barbarian Manchus in 1644 placed indigenous Chinese infantry as auxiliary soldiers in support of Manchu forces. The increase in quality, power, and effective range of firearms quickly made this theory obsolete.

See also: Sun Tzu

Morgan Deane

Crissé, Turpin de, Lieutenant General Lancelot, Comte de (1716–1795)

Significance: A military *philosophe*, de Crissé attempted to create one of the first modern theories of warfare. He sought to make operations exact and scientific.

Context: Writing during the French Enlightenment, Turpin de Crissé represents that tradition among military thinkers of creating a comprehensive body of military theory, universal in nature, which could guide warfare. For the French army this was particularly attractive, as it had done poorly in the War of the Austrian Succession (1740–1748) and in the Seven Years' War (1756–1763).

Biography: Turpin de Crissé was born in 1716, and became a hussar officer in the French army. In 1748, he became a brigadier general and served widely in Germany during the Seven Years' War. Promoted as lieutenant general in 1780, he won the distinguished Cross of Saint-Louis in 1787. He wrote widely on philosophy and education, and published commentaries on Caesar, Vegetius, and Montecuccoli. He died in Vienna in 1795.

Influences: Ancient military history held particular sway with Turpin de Crissé, as did the writings of Raimondo Montecúccoli. Vauban provided many theoretical underpinnings.

The Theory: Turpin de Crissé's military theory is found in the two-volume *Essai sur l'art de la guerre* (1754–1757). He examines nearly every facet of military affairs. From a theoretical standpoint, the arguments concerning the nature of the study of war are paramount. Unlike many contemporaries, he did not condemn prejudice and tradition for the shortcomings in the military art. War was like no other science, because its rules were difficult to discern and to apply. Intense study and the quality of “genius” were necessary for successful application.

Turpin de Crissé's theoretical approach is noteworthy. One of the first attempts to address operational art systematically is found under the rubric “Plan of Campaign.” In it, he proposes to apply Vauban's methods of siegecraft to general military operations. A general must advance toward an objective and fortify his forces once engaged. Then he must methodically advance against the enemy using zigzagging trenches and parallels.

Application: These theories contributed to the growth of military literature during the French Enlightenment. Although its contemporary influence is difficult to discern, he provided a methodology for understanding the study of war and was one of the first to develop the study of operational art. Understanding campaigns as sieges of enemy forces or even nations, proved prophetic of World War I at least.

Descendents: The *Essai* was translated into English, German, and Russian in his own lifetime and de Crissé became standard reading for a generation of military thinkers.

See also: Montecúccoli, R.

Further Reading

Gat, Azar, *The Origins of Military Thought from the Enlightenment to Clausewitz*. New York: Oxford University Press, 1989.

Patrick J. Speelman

Ewald, Johann Von

(1744–1813)

Significance: Ewald's work is a competent summary of previous literature on the tactics of irregular detachments (what today would be called “special forces” or “special operations”), enriched by his extensive practical experiences both in Europe and America. Nevertheless, Peter Paret argued that Ewald's work illustrates

the fact that the American War of Independence influenced European thinking about small wars very little.

Context: Ewald experienced the Seven Years' War on the side of Prussia. Then, in 1776, Ewald was among the 14,000 Hessians who were sent to America by the Landgrave of Hesse to fight for the British against the American insurgents in the American War of Independence. Later finding employment in Denmark, he helped keep this country out of the Napoleonic Wars.

Biography: Johann Ewald was born in Kassel on March 30, 1744, as the son of a post office employee and a grocer's daughter. He joined the military of Hesse as a cadet in 1760 and took part in the Seven Years' War. He was promoted in 1765, but his further career was blighted by the fact that he was a commoner. In 1770, he lost his left eye in a duel, but resumed his duties in 1771.

In 1776, as captain of a contingent of special forces (*Leibjäger*), Ewald was sent to America with a Hessian regiment, arriving in New-Rochelle on October 22, 1776. Ewald took part in all the subsequent campaigns; in 1777, he was awarded the Hesse-Cassel decoration *pour la vertu militaire*. He and his regiment became prisoners of war after the capitulation of Cornwallis at Yorktown on October 17, 1781. He was released on parole, and found himself on Long Island as an invalid, having contracted a nervous fever, not recovering until the end of the war. He returned to Hesse in 1784, and was moved to the infantry regiment of Heinrich Wilhelm Maximilian von Dittfurth as a captain. It was in this capacity that he published his *Abhandlungen über den Kleinen Krieg* (1785), followed by a series of other books of a mainly technical-tactical nature.

As further promotion was not forthcoming, he offered his service to the Danish monarch and, in 1788, he became lieutenant colonel and chief of a *Jäger* corps, which he built up, henceforth calling himself "von Ewald," and found a Danish spouse; his descendents were Danes. He was promoted several times in the following years and, in 1803, he was appointed to the command of a corps in southern Holstein. In 1806, he and his corps took part in a skirmish against the French under Murat and Soult, which persuaded the French to respect Danish neutrality. In 1807, Ewald was posted to Zeeland and, during 1809–1813, to Holstein. The Danish monarch accommodated the French by agreeing to the German anti-French partisans out of Danish territory; Ewald was thus part of the contingent that stormed Strahlsund in 1809, where the Prussian partisan captain Schill was killed. Ewald was promoted to lieutenant general in the same year.

Ewald's division was supposed to join the Grande Armée in Napoleon's Russian Campaign of 1812, but it eventually remained in Holstein. Ewald was taken ill in 1813, had to resign his command in May, and died in Landstelle near Kiel on May 28, 1813 (the date given elsewhere as June 25 is probably his funeral).

Influences: Inter alia, Ewald drew on the publications of the French pioneers of literature on small wars: Grandmaison, Jeney, Folard, Turpin de Crissé, De la Croix, and Jacques François de Chastenet, Marquis de Puységur's work on war, which were widely read in his time after their posthumous publication, as well as Henry Lloyd, and the less famous Friedrich Christoph von Saldern. Ewald drew on the usual Classical texts such as Vegetius for other quotations and examples.

The Theory: Ewald's works concern tactics rather than strategy. Using the terminology of our own times, Ewald urged the need for self-reliance, terrain analysis, adaptability, innovation, and the use of combined forces. He emphasized discipline, and the need to treat the local population well. It is perhaps here that we have a hint of an early inkling of the need to win the hearts and minds of locals in a context where special operations were increasingly being turned, on one side, into insurgency, and on the other, in which Ewald found himself, into counterinsurgency. Otherwise, there is little evidence that Ewald grappled with the strategic, let alone political, aims of the wars in which he fought.

Application: As an active commanding officer, Ewald himself had plenty of occasion to put his own prescriptions into practice; Selig and Skaggs found that they were echoed or independently derived from the earlier works that influenced Ewald by other fellow officers in the German-speaking world.

Descendants: Selig and Skaggs found that Ewald's book was used by the British commander Sir John Moore during the Peninsular War. When Clausewitz lectured his students on small wars (by which he still meant special operations), Ewald's works were among the publications on which he drew.

Further Reading

- Ewald, Johann, *Diary of the American War: A Hessian Journal*, trs. and ed. by Joseph Tustin. New Haven: Yale University Press, 1979.
- Ewald, Johann, *Gedanken eines hessischen Offiziers über das, was man bei Führung eines Detachements im Felde zu thun hat*. Cassel: Johann Jacob Cramer, 1774.
- Ewald, Johann von, *Abhandlung von Dienst der leichten Truppen*. Flensburg/Schleswig und Leipzig, 1790 and 1796.
- Ewald, Johann von, *Belehrungen über den Krieg, besonders über den kleinen Krieg, durch Beispiele großer Helden und kluger und tapferer Männer*. 3 vols. Schleswig: J. G. Röhß, 1798.
- Ewald, Johann von, *Gespräche eines Husarencorporals, eines Jägers und leichten Infanteristen über die Pflichten und den Dienst der leichten Soldaten*. Altona: Hammerich, 1794.
- Ewald, Johann von, *Vom Dienst im Felde für Unteroffiziere...* Schleswig: J. G. Röhß, Christiani & Korte, 1802.
- Hauptmann Johann Ewald: *Abhandlung über den kleinen Krieg*. Cassel: Johann Jacob Cramer, 1785; trs into English by Lieutenant A. Maimburg (London 1803), and again by Robert A Selig and David Curtis Skaggs: *Treatise on Partisan Warfare*. New York: Greenwood Press, 1991.

Paret, Peter, "Colonial Experience and European Military Reform at the End of the Eighteenth Century," originally published in 1964, re-published in *Historical Research* Vol. 37 No. 95 (2007), pp. 47–59.

Selig, Robert A. and David Curtis Skaggs (eds. and trs.), *Treatise on Partisan Warfare*, trs. of Ewald's *Abhandlung über den kleinen Krieg*. New York: Greenwood Press, 1991.

Beatrice Heuser

Fazl, Abul

(1551–1602)

Significance: Abul Fazl, a courtier of the Mughals, provides key information on Mughal-era warfare on the Indian subcontinent. The *Akbar Nama* records important battles of his patron Akbar's reign (1542–1605), and is based on information denied to scholars working outside the court. *Akbar Nama* gives a particularly detailed description of the Second Battle of Panipat, fought in 1556 between the warlord Hemu's Suri army and the Mughal army under Bairam Khan, acting as regent of young Akbar. The battle ensured Mughal rule of north India until the first half of the 18th century.

Context: Abul Fazl's life was dominated by struggles for north India between Hindu and Islamic warlords. One such warlord was Hemu (full name Hem Chandra), who was a Brahmin fighting for Afghan lords, and whose life provides a glimpse into war making in 16th-century India. Hemu's family was engaged in the trade of saltpeter, one of the chief components of gunpowder, which explains Hemu's familiarity with firearms. Manpower shortages suffered by the Islamic Suri dynasty, cut off from Mughal-dominated Afghanistan and faced with Mughal resurgence after the death of the Suri ruler Sher Shah, forced them to enlist Hindus such as Hemu. During their campaigns, the *Modis* (Hindu businessmen) supplied the Suri's Afghan troopers. Hemu took employment under one such *Modi*, who used to work for Islam Shah, son of Sher Shah. Islam Shah promoted Hemu to the post of the superintendent of market, his job being to supply Islam Shah's soldiers. Impressed by his organizational abilities, Islam Shah appointed him as minister of food and civil supplies. The rapid rise of Hindus such as Hemu was partly because of Islam Shah's suspicion of the Afghan nobility. Hemu was given the additional post of espionage chief. In 1553, Islam Shah was succeeded by Mubariz Khan. Adil Shah, a nephew of Sher Shah, opposed him. Hemu offered his service to Adil Shah, and he was appointed prime minister. Subsequently, Hemu also became the commander in chief of Adil's army. His main enemies were the Mughals. Hemu established a base in eastern India, while the Mughals were busy reestablishing their authority in Punjab. He became the power behind the throne of Adil Shah.

Biography: Abul Fazl, the son of Shaikh Mubarak, was born in Agra in 1551. He was well educated: religion and philosophy were his favorite subjects, and he was fluent in both Arabic and Persian. In 1574, Fazl entered the service of the Mughal Akbar and became the latter's confidant. Fazl became the author of *Ain-i-Akbari* and *Akbar Nama*. The former is an extremely thorough statistical study of Akbar's empire. Akbar's son Salim assassinated Fazl in 1602.

Fazl's work showers extraordinary attributes upon *Padshah* Akbar, overlooking the latter's limitations. He overlooks the campaigns in which the imperial forces were defeated. Nonetheless, he provides descriptions of important battles, from which contemporary theories of war can be gleaned.

Influences: Abul Fazl tried to combine the Persian and Arabic traditions in his work. He wrote in an ornate style, and resorts to rhetoric to hide Akbar's weaknesses. As a court chronicler, Fazl also ignores individuals who were opposed to Akbar's policies. However, *Akbar Nama* marks a break from the Persian tradition, by incorporating accounts of ancient India and the reigns of Hindu rulers. Fazl possessed *Zafar Nama (Book of Victory)* by Sharafuddin Yazdi, which records the military exploits of Tamerlane and was written 30 years after Timur's death. *Akbar Nama* is a blend of religion, politics, society, and warfare, which rotates around the persona of Akbar.

The Theory: Fazl's descriptions of battle allow insight into contemporary theories of war, particularly as applied by Hemu and his main enemies. Abul Fazl notes that prior to the Second Battle of Panipat, Hemu had won 22 battles.

Hemu's logistical system was in advance of his times. He understood that without ample supplies of cash soldiers, horses, or elephants could be not maintained. Elephants were particularly costly. Pillage and plundering alienated the civilian population, which resulted in potential security loss and required garrisoning. Foraging also destroyed soldiers' discipline, and prevented rapid concentration of the force. Hemu ordered his soldiers to buy provisions in cash, and while campaigning, loaded treasure on elephants and horses. Hemu's use of forts and his logistical capacity caused Brahmins, Rajputs, and the Afghans from Bihar and Uttar Pradesh to flock to his banner.

For example, Fazl writes that poor rainfall and devastation caused by continuous warfare created a famine around Delhi between 1556 and 1557. Hemu's logistical tail was, however, so robust that while encamped at Bayana, 50 miles southwest of Agra, he was able to feed 500 war elephants with rice, sugar, and butter when the people of Delhi and Agra were suffering from a shortage of cereals. These elephants gave Hemu victory in his first encounter with the Mughals. Hemu's logistical talents allowed him to crisscross the subcontinent from Bihar to Punjab swiftly.

Hemu, like Babur was a tactical innovator. Hemu realized that Mughal superiority rested on artillery and horse archery. He copied Mughal artillery and achieved parity at the technological level. However, he could not acquire mounted

bowmen of Central Asia because the horse markets of Kabul remained under the loose supervision of the Mughals. So, Hemu attempted to synthesize the ancient Hindu tradition of using elephants with the gunpowder technology introduced in north India by the Mughals. Hemu's policy of deliberately enticing the enemy flanks away from their center by ordering controlled retreat of his own flanks, exhibited not only strict discipline of the troops but also the high quality of generalship on his part. Hemu's tactic of concentrating a select corps and then throwing it against a particular point of the enemy's center, especially when the enemy's flanks were hanging in thin air, was a tactically effective ploy.

Application: In 1556, the Mughal cause seemed hopeless. While Hemu threatened them from the east, Sikander Suri, operating from the Siwalik Hills, was attempting to cut Mughal communications with Kabul. Then Muhammad Sulaiman, Akbar's cousin and governor of Kabul, declared his independence. The Mughal army was theoretically under the 13-year-old Akbar, but Bairam Khan was the *de facto* ruler. Bairam Khan was forced to divide the Mughal army into three battle groups to deal with the various threats. One battle group under Tardi Beg Khan was left in Delhi to meet Hemu.

Hemu advanced from Chunar and reached the outskirts of Delhi, where he deployed 50,000 cavalry, 1,000 elephants, 51 cannons, and 50 falconets. He enjoyed numerical superiority over the Mughals. Hemu's force and the Mughal army were technologically similar—the firepower advantage that Babur possessed had vanished by this time. The quality of Hemu's artillery, says Fazl, was the same as that of the Ottomans.

On October 7, 1556, Hemu clashed with the 5,000-strong Mughal detachment under Tardi Beg and the clash was termed as the Battle of Delhi. The Mughal army was divided into four wings: vanguard, center, right wing, and left wing. The Mughal vanguard started the battle by attacking Hemu's right wing. Rai Husain, the commander of Hemu's right wing was killed, along with 3,000 men. This encouraged the Mughal left wing to advance. The right and left wings of the Mughals attempted the classic *taulqama* tactic of outflanking the enemy by destroying its wings.

Hemu's tactical novelty was to launch an attack toward the enemy center with a select corps of troops. He deployed this elite contingent near the center under his direct command. Meanwhile, Hemu's wings deliberately started retreating to entice the Mughal wings to pursue them. At this juncture, when the Mughal center was separated from their advancing wings, Hemu launched his select corps, consisting of 3,000 horses and 300 elephants against the Mughal center and smashed it. When the Mughal wings returned to the battlefield they saw that their center had disintegrated, and they retreated. However, Hemu did not pursue the defeated enemy, because he thought that the Mughals were conducting a tactical retreat before launching a counterattack with the mounted archers. In reality, the defeated Mughal army was in no position to counterattack. Hemu occupied Delhi and in defiance of Adil Shah, crowned himself as Raja Bikramaditya.

When news of this disaster reached the Mughal camp in Punjab, most of the *amirs* (chieftains) were for going back to Kabul to reorganize. However, Bairam Khan exhibited iron determination, concentrated all possible soldiers, and marched to Karnal. Hemu started from Delhi. The Mughals and Hemu again clashed at Panipat, 53 miles from Delhi.

Just before the battle, Hemu's artillery was captured by the Mughals. However, Hemu still enjoyed numerical superiority. The Mughals managed only 10,000 cavalry. Besides 30,000 Rajput and Afghan cavalry, Hemu possessed 500 war elephants. Hemu relied on his armored war elephants for launching the decisive attack. His army was divided into four groups: the right and left wings, center, and the select corps. Just before the beginning of the Second Battle of Panipat, Hemu distributed treasure and issued land grants generously among his soldiers.

The Mughal army's military doctrine was evolving. The Mughal commanders learned from the past mistakes and anticipated Hemu's probable tactics. Hence, Mughal deployment at the Second Battle of Panipat was more complex than Tardi Beg's deployment during the Battle of Delhi. The Mughal contingent of *Altmash* (advance guard) appeared for the first time in their battle order at the Second Battle of Panipat. It was stationed between the vanguard and the center to prevent isolation of the center from the advancing vanguard. For bringing pressure on the enemy's wings, the right and left wings were strengthened with *uqci* (special contingent of mounted archers). Again, in case of an enemy charge against the Mughal center, the rear guard and the reserve would provide succor.

On November 5, 1556, the Mughal vanguard, along with the right and left wings, charged Hemu's left and right wings. The Mughals tried to implement the *taulqama* tactic of destroying the enemy's flanks and then surrounding it from the rear. The Mughal center was not eager to make a charge at the elephants—Fazl emphasizes the destructive capacity of Hemu's elephants, trained to disorder the cavalry. So, the Mughal vanguard attacked Hemu's elephants from a distance with horse archers. The mounted archers were able to pick off the fighters seated in the *howdahs* at long range and shot at the elephants' legs. However, the elephants were able to retain their place in the battlefield.

Hemu's tactics during the Second Battle of Panipat was similar to that implemented during the Battle of Delhi. His right and left wings conducted an ordered retreat to encourage the Mughal left and right wings away from the battlefield. When the Mughal center was isolated from the advancing wings, Hemu launched his select corps against the enemy center with the objective of smashing it. The Mughals had anticipated Hemu's charge, and had dug a ditch for protecting their center. The select corps crossed this ditch and created panic in the Mughal center. At this point, a chance arrow pierced Hemu's right eye. He lost consciousness, was captured, and then beheaded.

Upon the loss of their paymaster, Hemu's men relinquished victory. No clear-cut chain of command existed to provide unified leadership after the fall of Hemu, and his men fled. Akbar and Bairam Khan did not win the battle because of any exceptional military capabilities. Both were absent from the battlefield, leaving the fighting to the Mughal *amirs*. Mughal victory resulted from Hemu's accidental death.

Descendants: The Mughals captured 120 of Hemu's war elephants. The rampage caused by Hemu's elephants impressed Akbar and his *amirs*, and hence, after the Second Battle of Panipat, elephants became an integral part of the Mughal order of battle. In the post-Akbar era, horse archery, firearms, and war elephants constituted the core of the Mughal army. During the Battle of Khajwa, fought on January 5, 1659, both Aurangzeb and his brother Shah Shuja used elephants. Aurangzeb won this battle due to his numerical and firepower superiority, plus treachery among Shuja's generals. Later in 1659, during the Battle of Giria between Shah Shuja and Aurangzeb's general Mir Jumla, the former used light artillery carried on the backs of the elephants. Such guns were known as elephant swivel guns.

Hemu proved that money is the sinew of warfare. The use of ready cash while campaigning, a principle followed by Hemu was also adopted by the Mughals.

Akbar Nama influenced *Padshah* Shah Jahan (1628–1658) to have a similar work written for his reign. Shah Jahan deputed Abdul Hamid Lahori for this task. Like all court chronicles, *Shah Jahan Nama* employs hyperbolic praise of Shah Jahan and the narrative is given to rhetorical excesses. However, *Shah Jahan Nama* provides us with important military details interspersed with vital political information on its era.

See also: Use of Elephants in Indian Warfare

Further Reading

Fazl, Abul, *The Akbar Nama*, 3 vols., tr. from the Persian by H. Beveridge, 2nd ed. New Delhi: Saeed International, 1989.

Khan, Iqtidar, Alam, *Gunpowder and Firearms: Warfare in Medieval India*. New Delhi: Oxford University Press, 2004.

Pant, G.N., *Horse & Elephant Armour*. Delhi: Agam Kala Prakashan, 1997.

Sarkar, Jagadish, Narayan, *The Life of Mir Jumla: The General of Aurangzeb*. New Delhi: Rajesh Publications, 1979.

Kaushik Roy

Feuquières, Antoine de pas, Marquis de

(1648–1711)

Significance: Feuquières, a combat officer in Louis XIV's army, analyzed contemporary generalship and developed a sophisticated theory of strategy and operational art.

Context: France's uneven success during the Wars of Louis XIV spurred Feuquières to dissect the reasons for operational and strategic success and failure.

Biography: Feuquières gained his first military experience as an aide-de-camp to Turenne. He served during the Dutch Wars and during the Nine Years' War, but his tendency for criticizing political rivals at Court precluded him from service

in the War of the Spanish Succession, despite his combat experience and excellent command record. He contented himself with critical analysis of ongoing campaigns and worked on his *Memoires* until his death in 1711. His work was published posthumously in French in 1731 and 1740, in English (1736), and German (1738).

Influences: Feuquières drew from the extensive combat experience. He credited Turenne, the Duke of Luxenbourg, and Villars as exemplary, condemned Villeroi, and rendered a mixed judgment of Boufflers, William of Orange, Catinat, and others. In contrast to many of his contemporaries, Feuquières was not interested in Classical Antiquity.

The Theory: Feuquières did not use the terms grand strategy, strategy, operational art, and tactics, but he seems to have understood the concepts. He believed that success in war depended upon a commander's ability to maintain freedom of action while limiting that of his opponent. He emphasized seizing the initiative and believed in using deception and gaining relative advantages over an enemy that in aggregate could prove decisive. Feuquières understood something close to what Clausewitz called friction—the difficulty of controlling situations in war. This situational fragility provided both opportunity and liability. Feuquières advocated minimizing risk, but regarded prudence and vigor as complementary.

Feuquières believed that most conflict could be classified under five “constitutions”: “offensive war,” “defensive war,” “war between equal powers,” “auxiliary war,” and “civil war.” By “offensive war” and “defensive war” Feuquières sometimes seems to have meant the acting on the strategic attack or defense, respectively. Occasionally in his *Memoires*, however, he uses the terms not to refer to a side's intentions, but rather its cumulative advantages or disadvantages relative to the opponent. For example, by “defensive war” he sometimes meant a situation in which a commander suffered at a disadvantage of force size, terrain, or logistical conditions even if that commander's intent was still offensive. By “war between equal powers,” Feuquières meant a situation in which neither side enjoyed a clear strategic advantage, regardless of raw indicators of combat power. “Auxiliary war” and “civil war” meant military effort in support of an ally, and internecine conflict, respectively.

Feuquières argued that a commander should maintain or change the “constitution” of a war to his advantage; in a “defensive war,” a commander should seek to convert or “improve” it into a “war between equal powers.” He could do this by denying the enemy options, while retaining his own freedom of action—in other words, by seizing or maintaining the initiative. Use of deception enhanced a commander's ability to seize the initiative. For example, Feuquières advocated pretending to disperse one's main force and tempt the enemy into dispersing also, while actually retaining the ability to reconcentrate more rapidly than the enemy. He also advocated obscuring one's intentions by positioning a force where it could strike multiple targets.

Feuquières believed a commander's decision to seek battle should depend on whether victory might help change the war's "constitution." Strategic choice meant manipulating an enemy into sacrificing freedom of action. One consequence of victory in a battle was a limiting of an enemy's future strategic-level options. A battle did not have to end the entire war, therefore, to be decisive. Despite this nuanced approach, Feuquières nevertheless wrote a good deal on set-piece combat. He distinguished between larger set-piece field actions and smaller-scale "encounters"—fights between forces each of several battalions detached from a main army.

Feuquières recognized that few generals in his day would make policy, but clearly believed that a field commander's understanding of the grand strategic implications of his strategic- and operational-level decisions should guide him. He addressed logistics and offered tactical analysis of battles and encounters. Yet, unlike other authors of the period, he seemed less interested in training and military administration. For Feuquières, victory in war depended less upon applying some new tactical scheme or universal principles than on making decisions more quickly than an enemy could react, denying an enemy options and maintaining one's own freedom of action.

Feuquières hesitancy to identify fundamental laws for understanding war diverges from some trends of the "Military Enlightenment." Though he does contextualize his examples in explanation of principles, his work is more a narrative interwoven with reflections and recent military history. Yet the desire to classify "species" of war, as well as commentary on how to "improve" an operational situation, comports with Enlightenment epistemology.

Application: Feuquières's conceptions of the "species" of war entered contemporary strategic debate in Britain, with its tradition of vigorous public debate on the conduct of war. Field Marshal Lord Ligonier supposedly formulated plans during the War of the Austrian Succession based upon these principles. Napoleon drew from Feuquières in planning for the Italian campaigns, but later revealed he did not always agree with Feuquières.

Descendants: Extensive commentary on Feuquières is difficult to find. Frederick the Great did, however, call Feuquières's *Memoires* a classic, and had a translation made for his officers. Voltaire remarked that many historians of the Nine Years' War followed Feuquières's narrative, and he found Feuquières's strategic analysis cogent. Clausewitz mentioned Feuquières, approving of his effort to substantiate generalizations about warfare with concrete historical examples, yet also doubted his impartiality. Although historians such as Macaulay drew on Feuquières as a historical source, he figured only marginally in 19th- and 20th-century military thought. Feuquières's conception of the initiative does, however, echo in modern theories of operational art, for example, John Boyd's "OODA-loop."

See also: Crissé; Folard; Maizeroy; Picq; Saxe, M.

Further Reading

The outline of Feuquières's career can be found in *Biographie Universelle* (1968–) 14:72–73. Feuquières's *Memoires* have been reprinted in facsimile in the 20th century, as part of the Greenwood Press West Point Military Library Series. Jean Colin, Ira D. Gruber, Azar Gat, and Christopher Duffy have all considered his military thought.

Mark Danley

**Fourquevaux, Raimond de Beccarie
de Pavie, Seigneur de**
(1509–1574)

Significance: Fourquevaux was one of the very first western authors in one work comprehensively to have discussed warfare both on the higher level of strategy and ethics, and on the more frequently discussed lower levels of tactics, fortifications, logistics, recruitment, morale, and psychological warfare. Fourquevaux was also one of the first explicitly to write about counterinsurgency, that is, how to deal with “rebels.” His rules to be observed by soldiers in war are an early forerunner of the Hague and Geneva Conventions of the 20th century.

Context: The Great Italian Wars of 1494–1559, which besides directly affecting also the south of France drew in all the major European powers, form the background to Fourquevaux's writing.

Biography: Raimond de Beccarie de Pavie, baron de Fourquevaux, descended from a noble Italian family that had recently moved to the south of France to escape the Guef-Ghibelline wars. From 1527, Fourquevaux fought for the French king in northern Italy and southern France. Around 1548, he began to be deployed on French diplomatic missions, first to Scotland and in Ireland, and later in Savoy, northern Italy, Bohemia, and Spain. Later he was put in charge of the defense of several French and Italian cities against sieges and uprisings. He thus combined military and diplomatic experience, and wrote not only for the military practitioner but also for politically aware decision makers.

Influences: Similarly to Machiavelli's *Discourses on Livy*, Fourquevaux's *Instructions* built on the wisdom of the Ancients, drawing statements and examples from the works of Polybius, Frontinus, and Vegetius, from which Fourquevaux constructed his own book. He also drew on Antonio Cornazano's *Opera bellissima delarte Militar* (1493), and Machiavelli's *Art of War*; on which Fourquevaux's *Instructions* are in part modelled, significantly adding chapters of a more strategic–political nature absent from Machiavelli's book. Fourquevaux reiterated just

war theory as found in many other works before from St Augustine of Hippo's writings to the 16th century.

The Theory: By building on antique texts, Fourquevaux provided a comprehensive discussion of warfare on the political, strategic, and tactical levels, including many subareas of warfare, such as fortifications and siegecraft. In addition to reiterating classic just war theory, the *Instructions* debate the ethical problem of what to do if a third party is threatened or attacked, repeatedly France's problem in the Italian wars. He weighed offensive or defensive strategies (he inclined toward the latter), when to seek, and when to avoid battle. Although condoning stratagems or ruses, he urged firm adherence to all promises given to allies or defeated enemies, and the enforcement of strict discipline and observance of rules of engagement among one's own soldiers. In his section on counterinsurgency he urges clemency. The *Instructions* list rules to be observed in war, an early codex of *ius in bello* trying to impose restraints on war by enforcing good discipline among soldiers.

Descendants: Fourquevaux was a widely read author in the second half of the 16th century. The *Instructions* were first published anonymously, leading to the false attribution to another French diplomat, Guillaume du Bellay. Reprinted several times, they were translated into Spanish, Latin, German, and English.

Further Reading

For excerpts, see Beatrice Heuser (ed. and trans.), *The Strategy Makers: Thoughts on War and Society from Machiavelli to Clausewitz*. Santa Barbara, CA: Praeger/ABC-CLIO, 2010.

Beatrice Heuser

Frontinus, Sextus Julius

(ca. 35–103 CE)

Significance: Frontinus's military work is an important guide to Greek and Roman military ruses, tricks, and ploys up to the second century CE.

Context: Frontinus wrote at the end of the first century CE at the height of Roman military and political power.

Biography: Sextus Julius Frontinus, a member of the Roman patrician class, was born ca. 40 CE. He was possibly educated in Alexandria. In 70, he served as urban praetor, and he was consul three times: in 72/73, 98, and again in 100. From 75 to 78, he was governor of Britain where he subdued the Silures and other hostile tribes of Wales and prepared the way for his successor, Agricola. He was a

member of the College of Augurs, and served as proconsul in Asia in 86. In 97, the Emperor Nerva appointed him to the important position of superintendent of the aqueducts (*curator aquarum*) in Rome, and he subsequently wrote the definitive work on the water supply of Rome, which survives in only one manuscript. He died in 103 CE.

Influences: Frontinus was familiar with many Greek and Roman military writers and historians from whom he drew his collection of stratagems.

The Theory: Frontinus's principal treatise on military theory, entitled *De re militari* (*On Military Affairs*), probably written ca. 78, is lost, but an appendix to that work, perhaps written ca. 84–96, survives. The *Strategemata* (*Stratagems*), a work in three books to which a fourth book by another author is appended, is not a systematic treatise on military affairs, but rather a collection of more than 500 examples of military stratagems (ruses, ploys, and tricks) drawn from Greek and Roman history and intended for the use of Roman officers. Among the topics addressed were: concealing one's plans, escaping from difficult situations, distracting the attention of the enemy, quelling mutinies, arousing an army's enthusiasm for battle, creating panic in the enemy's ranks, ambushes, concealing reverses, surprise attacks, inducing treachery, pretended retirements, sending and receiving messages, and sorties.

Application: Identifying any actual application of the stratagems directly attributable to Frontinus is problematical, especially as he collected them from other sources, but his readers no doubt sought to apply them on occasion.

Descendants: During the Middle Ages, Frontinus was considered one of the leading Classical authorities on military affairs, and his *Strategemata* was one of the more popular Classical military texts circulating during medieval times. It is often found in manuscripts with the work of Vegetius and other ancient military writers.

See also: Vegetius

Further Reading

Frontinus, *The Stratagems and the Aqueducts of Rome*. Translated by Charles E. Bennett and edited by Mary B. McElwain. Cambridge, MA: Harvard University Press/London: William Heinemann, Ltd., 1969.

Gundermann, Gerhard (Ed.), *Quaestiones de Iuli Frontini Strategematon Libris*. Fleckeisen Jahrbuch Supplementband 16. Leipzig: 1888.

Thayer, Bill, "The Life and Works of Sextus Julius Frontinus" [Online, January 2006]. Lacus Curtius website at URL http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Frontinus/life_and_works*/html.

Charles R. Shrader

Guibert, Jacques-Antoine-Hippolyte, Comte de

(1743–1790)

Significance: De Guibert was the principal theoretician of the reform of French infantry tactics. His ideas informed the codification of the French infantry drill system, published as the *reglement* of 1791, which remained in use throughout the Revolutionary and Napoleonic Wars (1792–1815) until 1830.

Context: The Seven Years' War (1756–1763) was an unhappy experience for French arms. Defeat in Europe at Rossbach (1757) and Minden (1759), and the loss of important colonies in India and North America, led to demands for reform among the public and in French military circles. The rebuilding of the demoralized armed forces was placed in the hands of the Duc de Choiseul, minister for the army and navy from 1761. A vast reorganization the following year brought standardized regimental organization, and large summer training exercises at brigade and divisional level. Weapons, uniform, and finance were brought to a very high standard, and the new Gribeauval artillery system was introduced in 1765, along with schools of military equitation. However, Choiseul had made many enemies at court and he was dismissed in 1771.

Nonetheless, thanks to these improvements, the performance of the French army in the American War of Independence was creditable, especially given the variety of climate and terrain involved. Choiseul's work was continued from 1775 under King Louis XIV by St. Germain, but he too found resistance to his largely sensible ideas, and was forced to resign in 1777. There followed a period of reinforcement of the privileged position of aristocratic officers.

Biography: Born at Montauban, the son of a general, de Guibert accompanied his father as an aide-de-camp in the Seven Years' War. He instructed himself during long periods of inactivity typical of officers at this time, while his father was assisting de Choiseul with his reforms. Following the Corsican campaign of 1769, de Guibert was promoted to Colonel. From 1772, he lived in Paris and was popular in the literary salons. His first work, *Essai général de tactique*, was published in that year. He had good reason to expect that it would not pass the strict French censorship laws, and so like many other authors, he had his work published in London under an anonymous imprint. The work was a sensational success, and soon ran to further editions, published in Geneva (extracting the sections likely to appeal to a wider audience), and in Liege. A German translation appeared in Dresden in 1774, and an English translation in London in 1781.

The liberal tone of the *Essai* displeased the French court, and although de Guibert was spared punishment because of his youth, and the patronage of Marshal Soubise, his book was banned in France. His success in the fashionable literary salons was guaranteed, but there were plenty of critics. Frederick II of Prussia responded with some reservations, but in good humor, and passed his

compliments on via the encyclopedist D'Alembert. This encouraged de Guibert to visit Frederick at Potsdam. On his way back he paid his respects to Voltaire at Ferney, where Voltaire welcomed him cordially. In a letter to Mme De Deffand of November 16, 1773, Voltaire wrote that he detested war, but that he admired De Guibert's system. De Guibert had exhorted Voltaire to continue hating war, but not to confuse this hatred with that of "a science that makes it less deadly."

With the fall of Saint-Germain's ministry in 1777, the supporters of the *ordre profond* took up the charge once again, with Mesnil-Durand leading. Maneuvers held at Vaussieux in 1778 under the orders of Marshal de Broglie to try out the columnar tactics against conventional lines were inconclusive. De Guibert now studied the problems highlighted at these exercises. In his *Defence of the Modern System of War* (1779), he recommended a mixed tactical system, which would combine the benefits of deep and linear formations, dependent on the terrain, troops, and specific circumstances. He argued that the formation should be such that troops could change rapidly from column to line and back again. De Guibert also proposed an expanded role for the cavalry. Equally, he emphasized the importance of battles. Going back on his previous opinions regarding the people in arms, he judged that armies should be made up of professionals who would serve "the interests of the human race."

In his last work, *On the Power of the Public* (published in the year of his death, 1790), De Guibert warned prophetically of the dangers of total war that involved the arming of the people.

Influences: De Guibert was much affected by the campaigns of the French army in the Seven Years' War, and his outlook was molded by debates surrounding the reform of the French army between 1761 and 1771.

The Theory: De Guibert dedicated the *Essai* to his country, and hoped that one day it would return to its former glory and energy. In the *Discours preliminaire*, he criticized the politics of his day, which subordinated military concerns to those of state policy.

He was generally against the "cabinet wars" of the 18th century. These, he felt, were inconclusive and exhausted the state. He looked forward to a time when war would be more decisive. Politics, the art of governing the people, he maintains to be the most interesting of the sciences. It should have for its object the happiness of the nation at home and its respect abroad. At the time, this idea was not covered in any other work. He hoped that one day France would be able to raise a vigorous militia force, better than that of its neighbors, made up of citizens recruited for the defense of their homeland. If France was attacked, it would wreak a terrible revenge.

De Guibert had originally planned a massive new work, which he intended to cover the political and military affairs of France, beginning with an examination

of the different European states, before dealing with those of his homeland. Only the military section was ever written, which became the *Essai général de tactique*.

He holds that the science of tactics is made up of two elements: the first simple and limited, the other complex and sublime.

The second element is, to be frank, the science of generals. It includes all the great parts of war such as movements of armies, orders of march, orders of battle[...] It is everything in a word because it is the art of making the troops act, and all the other parts are secondary things which without it would have no purpose, or would only produce confusion. It is on this second aspect, seen from the wider point of view, where there are absolutely no theoretical texts. (*Essai général de tactique*. Vol. I, pp. 4–5)

The section on elementary tactics offers a summary of debates on the *ordre mince* and the *ordre profonde*. The new tactics of the French infantry allowed them to pass swiftly from line to column and vice versa in good order. The column, ideal for maneuver and attack, is made up of divisions of two companies formed up together. The grenadier and chasseur companies lead and close up the order of march, respectively. However, de Guibert remained skeptical about the much-vaunted shock effect of the column, and was a firm supporter of the *ordre mince*.

Grand tactics, he held, rested first and foremost with the army on march. This aspect for him became most important, and most decisive of all the phases of war. Marshal de Saxe had rightly said, “The whole secret of exercises and of war is in the legs.” Frederick the Great made frequent rapid forced marches, he noted, from the Elbe to Silesia, and from Silesia toward the Russians in East Prussia. However, there were still great strides to be made in the art of grand tactics, and in the order of march in particular.

One must know how to move on from mundane principles, and to this end if this can make the march faster and easier, the army should be separated into several bodies (corps) which come together at a given place, or within striking distance of a predetermined point; [...] one must gain in speed what is lost in method, to make speed is the principle and only object of these combinations. (*Essai général de tactique*. Vol II. p. 8)

De Guibert saw clearly the advantage that could be gained from this new divisional maneuver system. The different bodies of troops would follow different routes, but by coordinated movements should be able to be able to form in battle order ready to fight. One part could conduct a flank march, whereas another marched against the enemy’s front, all columns converging toward the same objective, “which is to form up in battle order and attack the enemy.”

De Guibert reduced Vegetius’s (*Epitome of Military Science*, III: 20) seven orders of battle to two: parallel order and oblique order. The first, he argued, is the more natural, the simplest, and the oldest. The second one became used “as mankind became more enlightened.” The Greeks and Romans used the oblique order.

Military science was then forgotten, he maintained, and virtually disappeared. Now there was a return to the fighting methods of the Classical Age.

When military science began to be reborn, we followed the same reasoning as the ancients, and consequently moved away from the parallel order. We sought to maneuver, to turn the enemy's flanks, there were hardly any more battles fought on the whole of the enemy's front, and there were even less as armies became more numerous, and drew up in thinner lines.

The *Essai* closes with *memoranda on the relationship of the science of fortifications, of the knowledge of terrain, of science of provisions, with tactics*. De Guibert reckoned that far too many fortresses had been constructed, and that this had made war more costly in terms of lives and money, and less scientific. There was still a need for fortresses, he said, but fewer of them, and these would be well sited at defiles on the frontiers. "War on the grand scale, the war of campaigns should always be the principle objective."

Application: De Guibert's work was novel in its time for its appreciation of the fundamental relationship between politics and war. There is a distinction between the two parts of the art of war described by others in the age of the Enlightenment. Puysegur, Folard, de Saxe, and Frederick II of Prussia, all made a distinction between the simple part and the sublime part (or the greater part), or in other words between the day-to-day routine of army administration and operations, and the higher philosophy of the art of war.

Moreover, de Guibert spoke of the difference between elementary tactics and grand tactics. In the *Defense of the Modern System of War* he called this *la strategique*, or army-level tactics, we would now call this "operational art." The rediscovery of the concept of strategy at the end of the 18th century grew largely from these theoretical writings. The newfound flexibility of armies gave rise to new possibilities, to be carried out at a higher level in the tactics of army groups or even corps-sized formations.

Descendants: During the campaigns of the French Revolutionary Wars the massive increase in the size of the army allowed commanders to practice de Guibert's "march divided, fight united" principle. Hoche, Dumouriez, and Bonaparte all incorporated these principles in the campaigns of 1794 to 1797. During the Napoleonic Wars, the *corps d'armée* system was used extensively by the French and eventually by all European armies.

See also: Bonaparte, Napoleon; Gribeauval, J.

Further Reading

See original works in French.

Hay du Chastelet, Paul (1619–1682?)

Significance: In the 17th century, Paul Hay du Chastelet stands out as an author who considered warfare in the totality, from its legal justification and political purpose (“peace is the final aim of taking arms”) down to the basics of recruitment. Like Liddell Hart three centuries later, Hay distinguished between a prudent “Fabian” style of warfare and an offensive “Alexandrian” style.

Context: Hay du Chastelet dedicated his *Treatise on War* to King Louis XIV of France, who would become known not only as the Sun King but also as the King of War, waging wars during 32 years of his 54 years’ reign. The *Treatise on War* was published during the preparations for France’s war of 1667/1668 with Spain over the Spanish succession and the Habsburgs’ possessions north of France, which Louis coveted. The *Treatise* also reflects the upsetting experience of the French civil war of the Fronde (1648–1653).

Biography: Paul Hay, Sieur du Chastelet, probably a native of Rennes in Brittany, was the son of (and is often confused with) the eponymous first secretary of the Académie Française. After his father’s death, Paul junior was educated by his uncle, Daniel Hay du Chastelet (1596–1671), also a member of the Académie and the abbot of Chambon. Paul married a descendent of the famous Huguenot captain François de la Noue. Nevertheless, Paul Hay in his publications fervently defended the Catholic point of view. Hay claimed to have had personal experience of warfare.

Influences: Hay du Chastelet was well acquainted with the historians of Antiquity, and stood firmly in the Roman and Catholic just war tradition.

The Theory: Although Hay tried to restrain Louis XIV’s lust for war, urging his monarch to fight only for just causes, Hay conceded critically that princes often fought for their interests and glory, but this was not a fact he could approve of. While professing that every detail in war is in God’s hand, the *Treatise* paradoxically emphasizes human wisdom, skill, and preparations. Hay identified two styles of warfare: the aggressive, offensive, and impetuous style of Alexander the Great, which he much preferred (including preemptive battle), and the defensive, careful approach of the Roman general Quintus Fabius Maximus, known as *Cunctator* (the hesitator). Classically for his times, Hay gave equal attention to both, and to what should be done in case of victory and in defeat. Hay urged restraint even in victory; defeated civilians and enemy soldiers must be treated well. He thought conquered lands were best pacified by means of good governance. Having lived through the Fronde, Hay showed great concern for the avoidance of insurgencies and civil war, and devised best practice in such cases. The establishment of a just order *postbellum* was central to Hay: “no captain must ever, regardless of what

victory he has won, refuse fair conditions to his enemies.” Hay also debated problems and opportunities of alliance warfare, mercenaries and other foreign troops, and naval warfare, which he thought of little benefit to France.

Descendents: His *Treatise* was reprinted twice, including a century after its first publication, and was that widely read in France. There is no evidence of any translation into other languages.

Further Reading

For excerpts, see Beatrice Heuser (ed. and trans.), *The Strategy Makers: Thoughts on War and Society from Machiavelli to Clausewitz*. Santa Barbara, CA: Praeger/ABC-CLIO, 2010.

Beatrice Heuser

Herodotus

(ca. 484 BCE–ca. 425 BCE)

Significance: First historian known to have gathered his information systematically, providing a coherent history of the Greco-Persian wars. Herodotus is referred to by historians as the “Father of History.”

Context: Herodotus wrote a detailed history of the wars between the Persian Empire and the Greek city-states during the fifth century BCE. The first and larger part of his *Histories* gives an account of Persia’s growth and expansionist policies under the Achaemenid dynasty, whereas the second part describes the Persian invasion in Greece, the ensuing battles, and the campaign’s ultimate failure.

Biography: Herodotus was born at Halicarnassus in Asia Minor in ca. 484 BCE. His probable involvement in a coup against the Persian tyrant of his native city led to his exile to the island of Samos. Although Herodotus returned to Halicarnassus after some years, he spent most of his early years traveling extensively throughout Greece, the Levant, Egypt, Magna Graecia, and the Black Sea, gathering information for his work. According to tradition, he died at Thurii in ca. 425 BCE.

Influences: Herodotus’s first-hand experience of the Persian Empire and its hostility toward Greece most probably led him to the writing of *The Histories*.

The Theory: Herodotus was the first to write a detailed history of the Greco-Persian wars based on information he methodically gathered during his extended travels. When possible, he would interview people involved in major events, such as the Athenian veterans of the Battle of Marathon. Herodotus is our main source about some of the most famous battles such as Marathon, Thermopylae, Plataea, and Salamis.

Application and Descendents: Later ancient historians criticized Herodotus, claiming that he exaggerated and even lied in certain cases. Modern historians, however, praise Herodotus's work, emphasizing on its wealth of geographical and ethnographical information.

Further Reading

Dewald, Carolyn, and John Marincola, eds. *The Cambridge Companion to Herodotus*. Cambridge: Cambridge University Press, 2006.

Ioannis Georganas

Ibn Akhi Hizam, Muhammad Ibn Ya'qub al-Khuttali

(ca. ninth century CE)

Significance: The Abbasid Iraqi army commander Muhammad Ibn Ya'qub Ibn Ghalib Ibn Ali al-Khuttali, known as Ibn Akhi Hizam, was the central figure in Muslim *furusīyya* ("horsemanship" or "chivalry") and wrote the oldest surviving Arabo-Islamic manual on military training and the care of horses. His work thus marked the emergence of Muslim *furusīyya* and determined the content of subsequent *furusīyya* literature.

Context and Biography: Born in Baghdad, where he also died, Ibn Akhi Hizam descended from a distinguished family of *abna'* (literally "sons," meaning the descendants of Arabs who had settled in Khurasan) who served the Abbasid dynasty in Iraq. His uncle, Hizam Ibn Ghalib, was a well-known commander of the Abbasids' Khurasani corps, as well as stable master to the warrior Caliph al-Mu'tasim (833–842 CE). His brother Ya'qub, Ibn Aki Hizam's father, shared the task of supervising al-Mu'tasim's stables, a sophisticated institution with a staff of hundreds. Ya'qub became the chief veterinary surgeon to the Caliph al-Mutawakkil (847–861 CE). Nevertheless, his brother Hizam's fame meant that he was commonly referred to as Akhu Hizam "brother of Hizam"—hence his son's epithet Ibn Akhi Hizam, "the son of the brother of Hizam."

The Theory and Influences: Ibn Akhi Hizam emulated his father and his uncle, joining the Khurasani corps and becoming one of its most prominent commanders. Subsequently, he became stable master to the Caliph al-Mu'tadid (892–902 CE). Ibn Akhi Hizam was an experienced soldier, an expert on horses and a master of *furusīyya* arts; hence, the unmatched importance of his treatise, written for the Caliph al-Mutawakkil.

Commonly entitled *Kitab al-Furusīyya wa-al-Baytara*, "The Book of *Furusīyya* Arts and Veterinary Medicine," the work consisted of two complementary treatises intended as manuals for mounted warriors, army officers, and commanders. The first treatise (hereafter treatise A) is a comprehensive work on horses including equitation, hippology, and farriery. The second treatise (treatise B) mainly deals with

the principles of riding and horse mastery, weapons techniques, polo, and hunting. Both were seminal contributions based upon the author's extensive knowledge and practical experience.

Ibn Akhi Hizam's qualities as a *furusiyya* master derived largely from a military and historical process that started with establishment of the Abbasid state in Iraq. *Furusiyya* emerged under the Abbasid Caliphate in Iraq during the second half of the eighth century CE, and flowered during the ninth century. It covered equitation and horse mastery, close combat techniques, archery, hunting, and polo. It also included practical and theoretical knowledge of basic veterinary science, the characteristics of weapons, and the art of war. The scope of *furusiyya* included training, exercises, and games performed on foot, such as wielding arms, archery, boxing, wrestling, and field hockey (*tabtab*).

Furusiyya was subdivided into "upper *furusiyya*" (*al-furusiyya al-'ulwiyya*) or activities on horseback, and "lower *furusiyya*" (*al-furusiyya al-sufliyya*), activities on foot. The overall activities of *furusiyya* were shared by two complementary and intermingling concepts and institutions: noble or civil *furusiyya* (*al-furusiyya al-nabilah* or *al-ahliyyah*) as represented by the Abbasid court and certain elements of civil society, and military *furusiyya* (*al-furusiyya al-harbiyya*) centered upon the training of mounted warriors.

Noble *furusiyya* was a state institution almost from its inception following the founding of Baghdad by the Caliph al-Mansur (754–775 CE). It consisted of training, from childhood, of the male members of the Abbasid family and the sons of notables, in horsemanship, the use of arms, archery, polo, field hockey, and hunting. The Caliph al-Mansur was too old to engage in such activities but he prepared the ground for his heir, al-Mahdi (775–785 CE), and his successors. Al-Mahdi was the first crown prince to be brought up according to the principles of noble *furusiyya*. In 768 CE, the first polo field (*maydan*) in Islam was built adjacent to his palace at al-Rusafa in Baghdad. Al-Mahdi became an archer of repute, skilled with both the long, simple Arab bow and the composite Persian bow. He made hunting into a sophisticated caliphal institution. Al-Mahdi's successors followed his example, and proficiency in *furusiyya* became a prerequisite for the caliphate.

Noble *furusiyya* was a unique blending of Mesopotamian, Arab, and Sassanian cultures within the framework of Islamic civilization and in the Abbasid context. It retained the pre-Islamic Arab concept of the horseman (*faris*) embodying bravery (*shaja'a*), gallantry (*shahama*), manliness (*muruwwa*), and generosity (*sakha'*). The notion of *faris* thus penetrated the Abbasid court *furusiyya*, and the term *furusiyya* is still used in Arabic as a synonym of such virtues, the chivalric aspect of Abbasid noble *furusiyya* surviving even after the institution itself died out.

This ethical dimension was also integrated in military *furusiyya*, which originated within the Abbasids' new army and which became the first professional multiethnic caliphal army in Islam. Meanwhile, the traditional tribal Arab army dwindled rapidly until it was practically extinguished under the Caliph

al-Ma'mun (833–842 CE), being officially abolished by his brother and successor al-Mu'tasim. The core of the new army consisted of the nontribal forces recruited in greater Khurasan (now divided between Afghanistan, Iran, Tajikistan, Uzbekistan, and Turkmenistan) during the Abbasid revolution that eventually replaced the Umayyad Caliphate in 750 CE. The majority of those early Khurasani recruits were Arab settlers whose ancestors had come from Iraq during the seventh century CE to control Persia and conquer greater Khurasan. Serving both as cavalry and as infantry, they were good archers, using the powerful Persian or Central Asian composite bow, which neutralized the Umayyad heavy cavalry and secured victory for the Abbasids. The Khurasani recruits introduced the mace and war axe into the caliphal army while still upholding the two most traditional Arab weapons, the lance and sword.

A sophisticated training system epitomized the Abbasid military *furusiyya*, representing an ingenious synthesis of Arab, Persian, Central Asian, and Byzantine military traditions. Its aim was to produce an accomplished and almost unique brand of mounted archers who would be individually more effective than even the Central Asian nomad horse archers, while still being highly proficient with the lance and close combat weapons. Such horsemen were also trained to fight on foot. Furthermore, they were expected to know the basics of veterinary science and be familiar with all weapons, including siege warfare equipment, and the stratagems of war and the art of war. These skills were continuously refined through exercises.

The two treatises of Ibn Akhi Hizam (A and B) come down to us both separately and bearing different titles, and combined as one work are often referred to as his “grand book” (*kitabuhu al-kabir*). Each treatise covers one of the two basic categories of *furusiyya* literature. The first such category includes thematic chapters on equitation, hippology, and farriery; on archery; on the art of war; on arms and war engines; on the chase and polo. The second category includes general *furusiyya* treatises that deal with some or most of the above-mentioned subjects, either in an abridged form or by including portions from the thematic treatises or as entire but small treatises. It also covers the training of the mounted warrior on horseback and on foot.

Treatise A is the oldest preserved Arabic text on horses and their medical treatment. It is also the earliest contribution, probably in any language, in which hippology, riding, training, and veterinary medicine are integrated into one work. Treatise A became the prototype of subsequent treatises. The work is divided into two parts. The core of the first part consists of chapters dealing with the treatment and training of horses, plus a host of chapters dedicated to riding, preceded by remarks on the skills needed by the trainer and the types of horses worth training. The second is devoted to veterinary medicine. All these chapters are largely based upon the author's practical experience.

Ibn Akhi Hizam elaborated upon Abbasid philological works concerning horses, all of which were written in Iraq, especially the work of the Basran philologist Abu 'Ubaydah Ma'mar Ibn al-Muthanna (d. 824 CE) entitled *Kitab al-Khayl* (Book of Horses). This was the most complete philological work on horses,

inspiring subsequent treatises whether written by philologists, *furusiiyya* masters, or compilers. At one point Ibn Akhi Hizam quotes and disputes the work of a certain Indian named Junna regarding markings and whorls.

In the second part devoted to veterinary medicine, the main reference, besides the author's own experience, was his father Ya'qub. Ibn Akhi Hizam was similarly familiar with earlier Greek and Persian contributions in this field and included several medical prescriptions that he described as belonging to the "ancients." He was, nevertheless, critical of contemporary veterinary medicine. He demanded that veterinary surgeons should be cross-examined before being allowed to practice.

Ibn Akhi Hizam's treatise B served as a model for future general *furusiiyya* treatises. These were normally devoted to military *furusiiyya*, integrating different disciplines needed to train and educate a mounted warrior.

In his preface, Ibn Akhi Hizam outlined his concept of military *furusiiyya* that he suggested, consisted of three fundamentals: horse mastery; proficiency in handling all types of weapons; and bravery. If the first two fundamentals were achieved, the horseman would be technically a perfect mounted warrior, but he would not be a genuine *faris* if he lacked courage. This in turn represented an ethical approach to warfare. He warned that bravery was a conscious act, which meant a wise mixture of daring and caution, good judgment, fear of God, gallantry, patience, endurance, honoring one's duties and obligations, modesty, and the capacity to overcome fear. All these virtues represented the ideal of Abbasid *furusiiyya*.

After this introduction, Ibn Akhi Hizam discussed military equitation. It began with an emphasis on riding bareback, not only to teach skills of securing a balanced seat when riding a saddled horse, but also to enable the horseman to fight and survive under all circumstances. He then offers advice concerning horse equipment. This chapter was often either quoted verbatim or simply plagiarized by later treatises, especially those from the Mamluk period.

The core of treatise B lies, however, in the chapters devoted to weapons. These start with the lance, which was considered the most important weapon besides the bow for the training of a mounted warrior. It was also the best means of for testing his aptitude in horsemanship. This chapter remained the standard manual on the subject for many centuries to come. It dealt with the fundamentals of lance training, types of charges and thrusts including, *al-tashdid al-shami aw al-rumi* "the Syrian or Byzantine" couched lance technique, the Khurasani technique, the Daylami or Yemeni technique, and the "modern" Islamic technique known as *al-tashdid al-muhdath*. Then came techniques of lance combat under different circumstances, the technique of lance jousting, and simulated lance combat either by pairs or horsemen or by one lancer facing two or more opponents.

The chapter on swords deals with unique information on the three basic forms of sword used by the Abbasid army. These were the straight, double-edged Arab sword, the single-edged Transoxanian sword called *al-sughdi* ("the Sughdian"), and the "edge and a half" sword called *al-khisrawani* ("the royal Persian"). The last two types represent sabers or proto-sabers with a straight or slightly curved blade. The author gave a set of guidelines on thrusts or strikes, and on the techniques of sword combat on horseback.

Although emphasizing the importance of a shield for the sword-armed man, whether on horse or on foot, Ibn Akhi Hizam made a digression about the different types and functions of shields.

For the sake of thoroughness, the author included in this chapter the essence of a treatise on swords written for the Abbasid Caliph al-Mu'tasim by the celebrated philosopher and chemist Abu Yusuf Ya'qub Ibn Ishaq al-Kindi (800 to ca. 866–873 CE). This treatise is unique in its genre within the group of *furusiyya* thematic “treatises on arms and war engines.” It was a remarkable field study, as each type of blade described being known and examined by al-Kindi himself who spent years visiting sword-smiths. This might explain why there was no subsequent attempt to write anything similar. Al-Kindi's work remains undoubtedly the most important source on swords from the entire medieval period. Ibn Akhi Hizam was probably the first *furusiyya* author to make extensive use of it. Nearly all subsequent borrowings from al-Kindi's work by Abbasid and Mamluk *furusiyya* treatises were lifted from this chapter in Ibn Akhi Hizam's treatise B, rather than directly from al-Kindi's treatise.

In his chapter on archery, the author combined his own knowledge with information from his elder contemporary and compatriot Abd al-Rahman Ahmad al-Tabari's *Kitab al-Shamil fi al-Rami* (“Comprehensive Book on Archery”). This chapter deals with types of bows, bowstrings, arrows, thumb rings, training the novice, target shooting, faults and injuries to which the archer was exposed, bracing the bow, shooting at and from a fortress, techniques of shooting from horseback, shooting a lion from horseback, and other subjects.

Treatise B concludes with a chapter on polo (*al-Darb bi al-Sawalija*), which had spread widely across the Muslim world after the Abbasids came to power. Indeed, this “king of games” was being democratized because it had become an integral part of the training of the mounted warrior. Ibn Akhi Hizam urged his fellow cavalrymen to constantly play polo. He provided precious information on polo equipment, techniques, and ponies.

Application: During the ninth century, collective and individual lance combats and maneuvers were commonly performed in the *maydans* “hippodromes” of Baghdad and Samarra that were often attended by the Caliph. Ibn Akhi Hizam himself organized and participated in such maneuvers during the caliphate of al-Mu'tadid.

Abbasid *ghulam* (literally “young servant,” plural: *ghilman*) took shape during the reign of the Caliph al-Mu'tasim and reached maturity in Baghdad under al-Mu'tadid, in response to the caliphate's need for loyal and efficient elite military units. It was conceived and inspired through the Abbasid noble *furusiyya*. Not surprisingly, the *ghulam*'s military training was more rigorous and systematic than that endured by “noble *furusiyya* members” or the Abbasid professional army as a whole. The initially servile status of these *ghilman* (mostly of Turkish origin) ensured their dedication to the training, their obedience to their educators who also taught them literacy and general knowledge, and to the *furusiyya* masters. This largely explains why the *ghilman* were normally enfranchised immediately after

the completion of the formative training period that might last several years. They then became free, mounted warriors in their respective elite corps and enjoyed numerous privileges.

Descendants: The combined work by Ibn Akhi Hizam, treatises A and B, greatly dominated the hundreds of available *furusiyya* manuals for centuries to come. It became the manual par excellence for *furusiyya* masters, *mamluks*, and *halaqa* troopers (non-*mamluk* professional troops in the Mamluk Sultanate). Indeed, the Mamluk *furusiyya* author and *halaqa* commander Muhammad Ibn Mangli (q.v.) warned his fellow troopers and *mamluks* not to consult any other work. Ibn Akhi Hizam deserved the nickname given him by *furusiyya* masters and fellow mounted soldiers, as the *Imam al-Fursan*, “supreme guide of cavalrymen.”

The *ghulam* system, which now spread from Iraq to the Abbasid provinces and successor states as far as Spain and India, proved to be long lasting and had a far-reaching impact upon Islamic societies and their neighbors. In most post-Abbasid Middle Eastern societies, the *ghilman* or *mamluks*, as they came to be known, became an integral part of the upper military and administrative class. They sometimes exercised direct rule, as in the cases of the Ghaznavid dynasty of Afghanistan (962–1186 CE) or the Mamluk Sultanate of Egypt and Syria (1250–1517 CE). Thus, the *ghilman* system not only became the finest incarnation of Abbasid *furusiyya* but also the main means of its dissemination.

This dissemination led to the diffusion of the *furusiyya* vital for the education, training, and life-long technical perfection of the mounted warrior. As a result, two main periods of Abbasid *furusiyya* literature can be identified: the first flourishing from the second half of the eighth CE century until the Buwayhid domination of Iraq (945 CE), the second lasting from the mid-12th CE century until the Mongol conquest of Iraq and the destruction of the Abbasid Caliphate in Baghdad (1258 CE). There followed a third significant era of *furusiyya* literature in Syria and Egypt under the Mamluk Sultanate that became the true heir and perpetuator of Abbasid institutions and traditions. However, most of the *furusiyya* treatises produced during this Mamluk period were compilations based upon Abbasid treatises.

It is yet to be determined whether Ibn Akh Hizam’s treatise A, which had reached Muslim Spain by at least the 12th century (as attested in the *Kitab al-Filaha* “Book of Agriculture” by the Andalusian agronomist Ibn al ‘Aawwam, d. 1185 CE), had any impact upon the evolution of European horsemanship or veterinary medicine. It certainly shaped Muslim horsemanship and veterinary medicine. During the 14th century it was even translated into the Kipchaq Turkish under the title *Kitab Baytarat al-Vazih* “Clear Book on Veterinary Medicine,” to be better understood by the Mamluks of Egypt and Syria who had insufficient knowledge of Arabic. There were also Persian and Ottoman Turkish versions of treatise A, although the influence of Ibn Akhi Hizam’s treatise A continued until the start of the 20th century when the last important Arabic book on horses appeared, written by Amir Muhammad Pasha Ibn Amir ‘Abd al-Qadi al-Jaza’ri (d. 1913) and published in Istanbul in 1907.

Although other Abbasid treatises on polo followed, some of which were more detailed than Ibn Akhi Hizam's chapter, his text was the oldest surviving inclusive document on the subject in any language. All post-Abbasid texts on polo, especially those from the Mamluk period, accepted Abbasid polo rules and "arts" without much further innovation. The Abbasid version of polo spread across the Middle East, subsequently to reach India where polo became popular under the Mughals (1526–1858 CE). From there it was adopted in the 1860s by the British, who spread it worldwide.

See also: Al-Rawandi; Al-Shaybani; Al-Shayzari; Al-Tabari; Baghdadi Manjaniqi, Ya'qūb Ibn Ṣābir; Muhammad; Nizam al-Mulk; Usama Ibn Munqidh

David Nicolle and Shihab al-Sarraf

Kamandaka

(450–550 CE)

Significance: Kamandaka's greatest contribution is to argue that military strategy should always be subordinated to political decision. Unlike other Hindu theorists, Kamandaka introduces the role of riverine navy in conducting land warfare. Kamandaka is important because he expounds the concept of *dharmayuddha* (just war) both in case of internal rebellions and interstate conflicts. Kamandaka focused on restraint on the use of force in both interstate and intra-state affairs. To avoid war, Kamandaka expounds various types of treaties between the sovereign powers, and in *Nitisara*, advances the theory of paternal despotism. He says that the *vijigishu* (the ideal ruler) should behave like a father toward the subjects—the king should, in fact, try to win the subject's "hearts and minds"—and should even try to co-opt some of the rebellious elements. It is therefore necessary that the king should follow the path of righteousness and should use force carefully. At times, says the *Nitisara*, deployment of *dandashakti* (coercive power) is necessary for ensuring *dharma* (rule of law) within the kingdom, but punishment should always be proportional to the crimes committed.

Context: The eclipse of the Kushanas in north India, and of the Satavahanas in Deccan during the third century CE, resulted in political disintegration in the Indian subcontinent. This gave rise to new powers and ruling families, including the Guptas, who established their feudo-federal Gupta Empire in north India under Chandragupta I in 320 CE. By the fifth century CE, the Gupta Empire was disintegrating under both Hunnic invasion and internal rebellions by their feudatories. Kamandaka operated within a political scenario of decentralized Hindu kingdoms with weaker bureaucracies than under the Maurya Empire. Each kingdom was a loose confederation of chieftains over whom the king presided. Hence, Kamandaka's argument that it is essential for a strong ruler to have strong and loyal feudatories.

Biography: Kamandaka came after the Gupta intellectual Kalidasa and was probably a contemporary of the mathematician and astronomer Varahamihira. Kamandaka wrote *Nitisara* between 450 and 550 CE.

Influences: Kamandaka regarded Kautilya as his mentor, and his *Nitisara* accepts the Kautilyan theory of *mandalas* (circle of states). Kamandaka, like Kautilya, warns his readers that, although the *mandala* is composed of both hostile and friendly powers, all politics are essentially selfish and look after their own interest. Friendliness and hostility toward the *vijigishu* therefore depend on their own perceptions of self-interest. Political alliances are therefore constantly shifting position according to circumstances. Perpetual friendship is impossible in reality, and an intelligent ruler should never put total trust on treaties. Rather, he should use peaceful times in preparing for inevitable times of crisis. After all, assures Kamandaka, in politics nobody can be trusted—not even one’s father.

Kamandaka, like Kautilya, warns that internal enemies are more dangerous than external enemies. *Danda* (the state’s coercive power) is necessary for both internal and external security, to prevent *matsanya* (the law of fishes in the pond, where the bigger fish swallows the smaller ones). This concept is borrowed from Kautilya. When *matsanya* prevails, *adharma* (unrighteousness) flourishes. In general, the policy of *ahimsa* is to be followed and *danda* is to be used only as a last resort. For maintaining internal security, *danda* should be used only when winning the “hearts and minds” of the subjects fail and punishment of antisocial elements is required.

Kamandaka accepts Kautilya’s dictum that in desperate situation, a ruler could follow *kutayuddha* (unjust war). Influential men of the enemy kingdom should be won over by bounties or threats. If they cannot be won over, then they are to be assassinated. Kamandaka also accepts Kautilya’s emphasis on the utility of spies, who should be used to spread panic and confusion in the enemy territory.

The principal objective of military campaigns, writes Kamandaka (influenced by Kautilya and Manu) is not the enemy army, but the enemy forts. Siege operation should involve blockading the supply routes to the forts. Kamandaka also follows Kautilya’s advice on how to seize the initiative from besiegers.

The Theory: The *Nitisara* argues that the seven interdependent elements of a government are king, ministers, kingdom, castles, treasury, *danda*, and allies. For a ruler trying to be *vijigishu*, the two most important of these seven elements are a solvent treasury and a strong *bala* (army). The principal duty of a king is good governance, which will ensure prosperity in his kingdom. The welfare and protection of his subjects are the twin duties of a ruler. Only a fatalist believes in providence as the cause behind prosperity and adversity; the king requires courage, valor, discipline, and leadership qualities to succeed.

Leaders take recourse to *vigraha* (war) because they are seized with revengefulness and agitated by resentment due to mutual harmful actions. War is also

resorted to by one aspiring to elevate his status, that is, aiming at overlordship, or by one suffering from harassment at the hands of his enemies. Other motives include the acquisition of territory, wealth, and allies. Of these three things, territory is most important and allies are least important. Triggers for war may include the abduction of women of the royal family, occupation of forts and capture of territory, the capture of horses and treasures of another king, learned men and soldiers who are enticed away from the kingdom, insulting behavior toward another ruler, usurpation in the kingdom, and interference in the affairs of allies of another kingdom.

Kamandaka assumes that the politics in the international arena are organized in a *mandala*. The sphere round a king consists of 12 other kings of whom four are enemies, four friends, and four neutrals.

The friends of *vijigishu* are of various types. Some kings may be related to the *vijigishu* by blood. Other kings might continue the alliance with the *vijigishu* because such an alliance has lasted for several generations. Many might become allies of the *vijigishu* due to the protection offered to the alliance by the powerful *vijigishu*. The allies are divided into categories of good, bad, and mediocre on the basis of their loyalty and military plus economic strength.

The techniques for avoiding war are *sama* (conciliation), *dana* (gift), and *bheda* (sowing dissension). Somewhat preempting the Prussian philosopher Carl Von Clausewitz, Kamandaka says that politics should occupy the dominant position while a state is conducting war. The *Nitisara* criticizes militarism and considers overdependence on military strength dangerous. Military power should always be subordinated to political judgment.

The principal message of *Nitisara* is to discourage the monarch from launching a war suddenly when pursuing an aggressive strategy. Victory in war is always *anti-tya* (uncertain), and because war results in mental and physical exhaustion; an intelligent ruler should never indulge in frequent campaigns. The *Nitisara* emphasizes self-restraint: a ruler practicing self-restraint rarely suffers defeat. Fighting with a powerful enemy is never justified (“clouds can never move in a direction opposite to that of the wind”). If attacked by a powerful king, one should not follow the example of snakes (which bite at the slightest provocation) but that of a cane (which bends under pressure but stands straight when the pressure is removed). Even when another of equal strength opposes a king, it is better to make peace rather than rely on the chance of battle. Death and destruction is the essence of war for all the parties. Warfare inevitably results in loss for the monarch and his subjects, and because the principal duty of the king is welfare of his subjects, it is better to make peace than wage war should the enemy demand minimal concessions.

Before starting war, the king should try to avoid hostility through diplomacy and generosity. If necessary, bilateral and multilateral treaties should be signed with other powers. The basic policy should be to follow the law of collective, harmonious existence.

In case of invasion by a stronger enemy, the latter should be won over through diplomatic alliances. The *Nitisara* explains various types of *sandhis* (treaties).

The *Kapalasanghi* is a type of alliance concluded between two powers of equal resources to maintain status quo. *Upaharasandhi* (*upahar* means gifts) involves offers of land, cash, and precious stones. This alliance is further subdivided into two types. When peace is made by ceding territory to a stronger power, it is known as *Aditasandhi*. When peace is made by surrendering mineral and forest resources, it is called *Parikrayasanghi*. *Santanasanghi* (*santana* means children) involves offering the daughter in marriage to the assailant. *Upanyasanghi* is concluded between two parties for achieving a common purpose, that is, war against a particular polity. A variation of this type of *sandhi* is known as *Samyogasanghi*, which refers to a temporary alliance made between the ruler and his enemy for fighting jointly against a bigger danger. This sort of *sandhi* is necessary, because the *vijigishu* should always avoid a two front war. Finally, *Samgatasandhi* is a long-term alliance between two parties for the purpose of pooling their resources, both in normal times and during emergencies. A treaty that establishes long-term peace between two polities is known as *Kancanasandhi*. A weak ruler signs *Pratikarasandhi* with a strong power. Under the terms of this treaty, the strong power provides military help to the weaker one if the latter is attacked by a third power.

At times, despite alliances, war becomes inevitable. For instance, if the enemy threatens an intimate ally of the *vijigishu*, the latter has no other option except to go for war. Before going to war, an accurate and detailed assessment of the enemy's strength and intention is necessary, and reconnaissance is vital. Similar to Sun Tzu, Kamandaka writes that knowing the enemy assures victory in warfare. For example, detailed information about the river and land routes of the hostile kingdom should be acquired.

Kamandaka suggests that the king should always use his military assets defensively. In case of war, instead of rushing to attack the enemy, the king should form a grand alliance and then absorb or turn the allies of his enemy to slowly strangle the latter. Those allies of the enemy who refuse to be absorbed by the *vijigishu* should be liquidated, thereby indirectly weakening the enemy's strength. However, rapid liquidation of the enemy's allies might concern other members of the *mandala*, who might then unite and attack the *vijigishu*. Hence, the *vijigishu* should move slowly and, instead of totally destroying the enemy allies, should transform them into his dependences. Kamandaka therefore advocates a slow, protracted attritional war or a theory of exhaustion. He elaborates on this indirect strategy: the kingdom of the enemy should be harassed, for example, by destroying its crops.

Kamandaka also describes the characteristics and functions of the *bala*. The term *bala* means an army that was used as a *danda* (coercive instrument) for ensuring good governance. In times of war, the king has to rely on *bala*, which is composed primarily by weapons and soldiers. A ruler whose armed forces are corrupt and ill disciplined is like a kingdom ravaged by famine, and even a brave ruler is let down by cowardly soldiers who desert him in battle. The *bala* should be composed of soldiers whose families have been loyal for generations, and the core of the army should be composed of *Kshatriyas* (the warrior caste). The soldiers'

valor and professional skill should be developed, and skillful commanders should be appointed to control them. Soldiers should be equipped with various types of weapons, and different units should specialize in various modes of fighting, for example, with swords or spears. Moreover, the soldiers should be prepared for military service in distant regions over a long period. To ensure loyalty, welfare measures are essential. A covetous or miserly ruler who does not adequately remunerate his men loses their wholehearted support and thus comes to grief, as the enemy can purchase such a ruler's officers and men. So, besides clash of arms, campaigns can be decided by the power of money and political intrigues.

Cooperation between the army and riverine navy is perhaps the most original point of the *Nitisara*. Kamandaka realized that for logistical purposes navy should be used because it was much cheaper and quicker to transport men, animals, and military stores along rivers rather than over land. Kamandaka hints that the river fleets should be used for transporting the army and war materials and also for conducting siege operations around enemy forts located on the riverbanks. At times, Kamandaka also harps on amphibious operations. However, Kamandaka's thrust remains on siege warfare on land and he does not elaborate on the role of a riverine navy in warfare to a great extent.

Whereas Kautilya's suggested force structure for conducting land warfare focuses on cooperation between war chariots, infantry, cavalry, and elephants, Kamandaka suggests a core of elephants, covered with iron armor and protected by infantry. Kamandaka writes that the king should maintain elephant forests for ensuring the supply of war elephants.

The *Nitisara* suggests various sorts of *vhuyas* (army battle formations). Each *vhuya* consists of the following components: *urah* (a detached unit just in front of the center), *kaksa* (flanks), *paksa* (front), *madhya* (center), *prshtha* (a unit behind the center), *pratigraha* (reserve in the rear), and finally *koti* (mobile reserve).

The *Achalvhuya* formation consists of infantry in the front, cavalry in the second line, chariots in the third line, and finally elephants in the rear. When the elephants are in the front, cavalry in the second line, chariots in the third line and finally infantry in the fourth line, the formation is called *Aprathihatavhuya*. Shifting elephants to the center, chariots at both the flanks and cavalry on two frontal wings, creates the formation is known as *Madhyavedhivhuya*. When cavalry is in the center, chariots at the two flanks and elephants organized in two wings at the front, the battle formation is called *Antvhidvhuya*. In these two above-mentioned battle formations, infantry is not deployed.

The *Nitisara* categorizes *durgas* (forts) into four types according to their locations: forts on *parvats* (hills); *audakas* (watery forts, built on islands in rivers); *varksams* (forest forts); and desert forts. Desert forts are of two types: *airina* (fort in arid waterless area) and *dhanvana* (fort in sandy desert area). Each of the forts should be surrounded by a moat or ditch, and have ramparts fitted with strong gateways. A fort with sufficient garrison and supplies would be able to withstand a long siege. In addition, the forts should have secret shelters for king and his entourage during enemy siege operations. A king without forts is helpless.

Application: Indian rulers applied Kamandaka's various ideas with different levels of success. For example, Bhaskaravarman, the ruler of Assam around 642 CE, maintained large numbers of elephants and his land army cooperated with his riverine navy, as laid down by Kamandaka. Assam was mostly a forested, roadless terrain with many streams and rivers. The warships, made of logs of wood, were about 70 tons each and a cargo ship used for ferrying soldiers could carry 500 troops. This greatly increased the mobility of Bhaskaravarman's army.

King Devapala of the Pala dynasty in 10th century CE was emblematic of early medieval Hindu rulers who relied mostly on elephants, partly because of Kamandaka's suggestions. He even took the title *hayapati* (lord of elephants). This was adequate as long as the Indian powers were fighting among themselves, but in the long run resulted in their defeats by the Muslims horse archers.

Kamandaka and other Hindu thinkers had certainly neglected the use of cavalry for fast-moving reconnaissance and "hit and run" attacks. At the tactical level, Kamandaka's theory put the clock of art of warfare back: he even continued to emphasize the importance of chariots, though they had become outdated after the Battle of Hydaspes. Kamandaka's conservatism led to him advocating the traditional *chaturangabala* (infantry, cavalry, elephants, and chariots) and neglecting the radical innovations going on the field of cavalry warfare. For example, the Huns introduced wooden saddles, and in the ninth century CE, the Muslims came up with iron stirrups and iron cavalry armor. Hindu failure to counteract mounted archery was particularly damaging after the Muslims introduced bows capable of piercing elephant hide. Besides greater thrust, the Muslim composite bows had greater range than the Hindu bamboo bows.

In the long run, also, fort-based strategic defenses made the Hindu rulers of ancient and early medieval India passive. The Huns during the fifth and sixth centuries CE and the Islamic warlords from ninth century CE onward, repeatedly defeated the Hindu kings because of Hindu inferiority in the mounted branch. For example, Mahmud of Ghazni made 17 successful cavalry raids between 1001 and 1027 CE.

Kamandaka's military strategy of ravaging the enemy territory and avoiding pitched battles, elucidated in the *Nitisara*, met with greater success. The strategy was accepted by the Marathas (Hindu inhabitants of Maharashtra in west India) in response to the *jihad* of Mughal Emperor Aurangzeb (1658–1707 CE). It succeeded partially because the Marathas used light cavalry for harassing the Mughals.

The Marathas used long-distance "guerrilla" warfare, which involved attritional raids for plunder, rather than pitched encounters with the Mughal army. The Marathas realized that they would not be able to successfully meet the numerically superior Mughal heavy cavalry in the open field. Hence, they used "hide and seek" tactics, rapid movement, and bribery. Raiding and counter-raiding before the monsoon constituted a principal method of fighting.

The Marathas' basic idea was to prevent concentration of the Mughal forces. To confuse the Mughals, various detachments of Maratha raiding parties operated.

While one detachment conducted deep raids inside Mughal territory, another detachment formed a screen before the Mughal army to prevent it from acquiring intelligence, as well as to reduce its mobility. The third detachment attacked the Mughal line of communications and supply columns. The aim was to choke the enemy's food and water supply and thus force it to surrender without actually fighting it. When the enemy launched counterattacks, the Maratha raiding parties retreated and took advantage of hilly terrain and jungles to slip away. When the enemy retreated, the Marathas advanced. Instead of depending on a large logistical infrastructure, the Maratha cavalry force sustained itself by looting the enemy.

Pillage and plundering of the ports and cities became characteristic features of the Maratha raiding parties.

Maratha raiding strategy could meet with tremendous success. During the Palkhed campaign (1727–1728 CE) against the *Nizam* (a Mughal governor who had become independent of the central government at Delhi) of Hyderabad, *Peshwa* (prime minister of the Maratha State) Baji Rao I avoided pitched battles. Baji Rao I followed mobile harassing tactics with his light cavalry, forcing the *Nizam* to engage in a futile cross-country race with his artillery and heavy cavalry, which wore him out. The *Peshwa's* lightning marches and clever maneuverings eventually forced the *Nizam* into a rugged waterless country, where the *Nizam* was forced to sue for peace. Also, during the first half of the 18th century, the Bengal *Nawabi* included Orissa, West Bengal, Bangladesh, and Bihar. Raghujai Bhonsle (a Maratha chieftain) of Berar sent his cavalry through Orissa into West Bengal in 1743, 1744, and 1745. In 1748, the Marathas invaded Bihar, and in 1750 and 1751, Bengal. In 1751, Alivardi Khan, the *Nawab* of Bengal agreed to cede Orissa to the Marathas.

Descendents: Sukra's work, entitled *Sukranitisara*, written around the ninth century CE, after the Muslim invasion, places greater importance on the army and unjust war relative to *Nitisara*, and pays less attention to just rule and using the army as an internal security force.

Sukra gives more weight to waging battles. It is necessary, says Sukra, to enjoy numerical superiority even against weaker enemies: victory becomes certain in case of a three to one superiority over the enemy. Initially, half of the forces should be used for attacking the enemy, but for victory, the king must keep a reserve of up to half his army to be thrown at the critical juncture. Sukra's battle tactics involve launching a holding attack in the front and then sending the principal forces to crush both the wings of the enemy army. Another method involves a tactical retreat to bring the pursuing enemy forces into unfavorable terrain and then launching a sudden counterattack. Sukra notes that an army tired out by marching long distance and in disorder (while the soldiers are recuperating or eating) provides an ideal target for a surprise attack. Instead of an army composed of the feudatories, Sukra demands a well-trained standing army maintained by the central government. This is because complicated battle maneuvers require a trained and efficient army. An efficient army must have a well organized, hierarchical

command and should receive weapons from the ruler. For purposes of command, bugles are to be used.

To inculcate discipline, the soldiers are ordered to clean their weapons and armor and maintain their dress properly. Military drill and target practice are emphasized. Undisciplined soldiers are fined. The soldiers' combat strength should be raised by diet, athletic exercise, and wrestling. The king is asked to introduce collective training for the soldiers by encouraging various hunting parties where the soldiers are ordered to kill wild animals in close quarter fight.

Sukra points out a variety of welfare measures for construction and retention of loyalty bonds with the troops. Regular pay is emphasized for ensuring loyalty and morale of the troops. The king should grant extra pay to the soldiers when they are marching. Before the battle, the king should promise rewards and promotions to the military personnel. Another factor for generating morale is to inculcate war-like spirit in the society.

The *Sukranitisara* tell us that infantry followed by cavalry should dominate the army. Unlike Kamandaka, Sukra does not overemphasize the role of elephants in battle. For crossing rivers, mountains, forests, and besieging a fort, Sukra says that combined forces are necessary. Sukra also focuses on the linkages between operational efficiency and logistical sufficiency. Unlike Kamandaka, but like Bana, Sukra gives importance to the draft animals, such as bulls and camels, for logistical purpose. Sukra asserts that logistical back up is needed for an all-arms battle unit to be self-sufficient and capable of detached duties. To prevent indiscipline, the soldiers are not allowed to engage in pillage and plundering. The ruler is advised to open markets inside the camp for distributing supplies to the soldiers.

See also: Bana; Indian Use of Chariots; Kautilya; Manu; Use of Elephants in Indian Warfare

Further Reading

Joshi, P. S., *Chhatrapati Sambhaji*. New Delhi: S. Chand & Company, n.d.

Kantak, M. R., *The First Anglo-Maratha War, 1774–1783: A Military Study of Major Battles*. Bombay: Popular Press, 1993.

The Nitisara by Kamandaki, ed. by Raja Rajendra Lala Mitra, Revised with English tr. Dr.

Sisir Kumar Mitra. 2nd ed. Calcutta: The Asiatic Society, 1884.

Sarkar, Jadunath, *House of Shivaji*. 2nd ed. New Delhi: Orient Longman, 1978.

Kaushik Roy

Kant, Immanuel

(1724–1804)

Significance: Kant's views on war, peace, and human history combined a rigorous examination of ethics with the tradition of 18th-century European political theory. His work demonstrates the confident, optimistic quality of late Enlightenment thought. He had a significant impact on later theorists with progressive views of history, including Hegel and Marx.

Context: The currents of 17th- and 18th-century European philosophy form the basis of Kant's ideas. He sought to resolve long-standing disputes on the nature of knowledge and the basis of ethical behavior. Kant's work must also be understood in the context of Newtonian natural law, and the attempt to apply such a view of natural law to human history. Finally, Kant's views on society must be viewed as part of the Enlightenment tradition of political theory.

Biography: Immanuel Kant was born in the Prussian city of Königsberg in 1724. The son of a harness maker, he was educated at the University of Königsberg. He joined the faculty of the same institution and remained there for the rest of his life. Although he produced a great body of writing on subjects ranging from astronomy to history, he is best known for his work on epistemology, metaphysics, and ethics.

Influences: Kant's work responded to the philosophical controversies of his day, and so one could say he was influenced by the major currents of 17th- and 18th-century philosophy, even those he ultimately rejected. His views of history and politics drew upon Enlightenment political theory, particularly that of Rousseau. Kant's philosophy of knowledge had a particular relationship to the thought of David Hume. Hume maintained that our knowledge of that world could only come from the experiences of sense. Further, only the actual sense impressions themselves could be said to relate directly to reality. For Hume, the intellectual connections that the human mind makes *between* such impressions—consistency, causation, even the existence of substance itself—are imposed by the mind on sense and must be considered as mere conventions. Such conventions, or “customs,” are projected by human thought on nature to lend order to the world.

The Theory: Any discussion of Kant's approach to issues of war and peace must begin with a brief examination of his views on knowledge itself. Kant accepts much of Hume's work: the certainty of mathematics and the importance of sense, for example. However, he attacks Hume's views on convention and custom. For Kant, humans view the world through the prism of human reason and consciousness. They can see it no other way. Thus, such notions as consistency and causation— notions that lend coherence and order to our sense impressions—may be considered as true because they are inherent in the structure of human thought. In other words, because all humanity shares certain fundamental assumptions about nature, those assumptions may be considered valid within the confines of human discourse.

Kant's views on ethics also incorporate this stress on the commonality of human reason. He argues that humanity shares a rational sense of right and wrong, which he terms the “categorical imperative.” Emotion and self-interest may cloud this rational understanding of right action. However, a rigorously rational examination of a given situation will result in a shared definition of ethical behavior, based on the common rational basis of human thought. Further, actions may only be considered as truly ethical when they proceed from such a sense of rational obligation.

Ethical actions inspired by emotion or cultural compliance are not truly ethical in a Kantian sense.

The conflict between human emotion and a common rational ethical sense lies at the root of Kant's understanding of warfare and his ultimate expectation of perpetual peace. He maintains that human beings are driven by emotion and self-interest, and that these forces produce the feelings of loyalty and group identity common to tribal and monarchical forms of government. These are the forms of government that most readily resort to warfare as a means of expanding wealth, power, and resources. In addition, warfare results from the human desire to feel superior to others. However, Kant argues that the same forces of self-interest that produce human conflict will ultimately lead to its disappearance. As wealth and technology come to determine military power, nations will pursue commercial and economic development as a means of increasing such power. This development will reduce the significance of aristocratic or royal authority and foster the growth of republican institutions, for representative government most effectively marshals the economic resources of a nation. Yet, those same republican institutions will come to question the application of significant national resources to the pursuit of warfare. Further, according to Kant, representative government will allow for the growth of policy based on inherent human reason, as opposed to emotion and self-interest. This will lead to the establishment of a world order based on perpetual peace, as republican governments come to manifest the rational, moral character of humanity.

Kant published his work on perpetual peace in 1795. His ideas on the subject reflect his views on human knowledge and morality, as well as a progressive view of history rooted in Enlightenment notions of natural law and human nature. For Kant, the rise of a rational world order proceeds directly from human nature, as reason replaces emotion as the driving force of society over the course of human history.

Applications: Kant's notion of the progress of world history toward representative government, combined with his ideas on perpetual peace between rational republics, played a significant role in the establishment of 20th-century world institutions. It is important to note that Kant discusses republican government, but does not refer to democracy. In any case, his ideas influenced Woodrow Wilson and the architects of the League of Nations, as well as the Charter of the United Nations. Kant himself did not envision a world order based on institutions; rather, he believed that such an order would proceed from human reason itself.

Descendants: Later theorists of human history and human society owe a significant debt to Kant's ideas. His concept of history as the progressive, predictable unfolding of human nature influenced later German Romantic notions of human society, as well as Hegel's views on ideology and history. Marx's progressive approach to class struggle over time also has a Kantian character. The "whig" interpretation of history, defined in the first half of the 20th century by Butterfield, combines Kantian attitudes with more modern views on the triumph of democracy.

See also: Machiavelli

Further Reading

Flikschuh, Katrin, *Kant and Modern Political Philosophy*. London: Cambridge University Press, 2000.

Kant, Immanuel, “Idea for a Universal History with a Cosmopolitan Purpose.” In Reiss, H. S. *Kant. Cambridge Texts in the History of Political Thought*. 2nd ed. Cambridge: Cambridge University Press, 1991.

Kant, Immanuel, *Perpetual Peace*. London: FQ Classics, 1997.

Scruton, Roger, *Kant*. New York: Oxford University Press, 1996.

Wood, Allan, *Kant's Ethical Thought*. London: Cambridge University Press, 1999.

Robert Kiely

Kautilya

(ca. 300 BCE)

Significance: The *Arthashastra*, generally ascribed to Kautilya, is the first known treatise about grand strategy written on the Indian subcontinent, and probably one of the earliest examples in the world of a manual devoted to the strategy of power. A minority group of scholars argue that the *Arthashastra* was a collective effort by several thinkers over a wide period, and it is probable that Kautilya was not the first writer on the science of statecraft. The science of polity developed in India before 600 BCE. Most of these writings were in the verse form, but Kautilya’s *Arthashastra* was the first work written in prose. The *Arthashastra* is a pioneering attempt to chalk out a grand theory of warfare, and then to fit it within the “realist” worldview of international politics—that is, in terms of a struggle for survival. Like Machiavelli, Kautilyan philosophy is not moralistic, but empirically examines the dynamics of actual power struggles. It studies human self-interest and aggression to understand political reality. From this perspective, justice and morality appear naïve, utopian and hopeless. In contrast, the *dharmashastras* emphasize that a just ruler should follow righteous policy based on honesty and nonviolence. For Kautilya, diplomatic treaties are mere pieces of paper, to be torn up in accordance with the demands of realpolitik. He maintains that, to avert threats to the state, policies might have to be pursued, which appear ethically repugnant. Questions of morality should never jeopardize the security and independence of the realm.

At the operational level, Kautilya hints at what Carl Von Clausewitz later referred to as the “culminating point of offensive,” that is, the point after which the momentum of offence by the aggressor begins to falter. When the invader has frittered away his strength, says Kautilya, the hitherto weak ruler should launch a counteroffensive. However, Kautilya warns against launching a premature counteroffensive, which in his view is equivalent to “entering the flame like a moth.”

At the tactical level, Kautilya seems to indicate that the side with bigger battalions would win the day—thereby somewhat preempting Napoleon Bonaparte. To succeed, Kautilya advises, the attacking army must have at least a two to one superiority over the enemy. Victory is said to be certain when the conqueror enjoys an eight to one superiority in infantry and a four to one superiority in cavalry and chariots.

Context: From 400 BCE, large-scale cultivation in the Ganga–Jamuna region had become possible due to intensive use of the iron plough. Increasing agricultural surplus gave rise to huge territorial states that replaced the earlier tribal chiefdoms. Kautilya’s *vijigishu* (the ideal ruler and would be conqueror) was the Maurya monarch. In ancient India, the Maurya Empire was the most centralized political entity. However, the state did not yet possess a strict monopoly on the use of organized violence in society, and there was no uniform administration throughout the empire. The Maurya Empire was composed of three units. The core was the Ganga–Jamuna delta, which was administered directly by bureaucrats appointed by the central government. The periphery comprised central and west India. Here, the control of the central government was loose, and many cities and tribes enjoyed internal autonomy. The third layer, or outer rim, included northwest India and the Deccan. The central government enjoyed overlordship over this belt of territory, which functioned as a buffer between the Maurya Empire and foreign powers.

The big empires possessed large cities with fortifications, most of which, like Pataliputra (the imperial capital) were constructed of wood. One of Kautilya’s practical recommendations was to dissuade rulers from the use of wood in fortifications, due to timber’s propensity to catch fire.

Biography: Kautilya, also known as Chanakya, was an inhabitant of Taxila who lived around 300 BCE. He is associated with Vishnugupta, the principal minister of Chandragupta Maurya (the warlord who established the Maurya Empire in 321 BCE). According to one account, Chanakya aided Chandragupta in defeating the Nanda Empire, which included north India and Kalinga (Orissa).

Influences: The Aryans belonged to the Brahmin and Kshatriya castes. The conquered Dravidians were assigned the rank of Sudras. And the mixed offspring due to union between Sudras and the Aryans were categorized as Vaisyas. The pre-Kautilyan *dharmashastras* (Vedic and Epic religious literature, which occasionally hints at the necessity of good governance by just rulers) advocated a Brahmin or Kshatriya (warrior caste, second in rank in the caste hierarchy coming just after the Brahmins) army. Kautilya warns the ruler against depending on only one social group, as they could be won over by the enemy. The army should be recruited from all the four *varnas* (castes), such as the Brahmins, Kshatriyas, Vaisyas, and Sudras. And when large numbers are required, says Kautilya, recruitment of even the Sudras (lowest caste in the caste hierarchy) is necessary. This is an attempt by Kautilya to integrate all the settled communities inside the subcontinent within an expansive Aryan fold.

The three great Hindu political theorists who preceded Kautilya were Vatavyadhi, Bharadavaja, and Visalaksa. In Vatavyadhi's paradigm, a ruler has only two options before him as regards external relations: peace or war. Kautilya rejects this bipolar compartmentalization. Kautilya also disagrees with Bharadavaja's advice that a weak king must always submit to a stronger king. Similarly, Kautilya challenges the dictum of Visalaksa, that the weak ruler should always fight the strong ruler regardless of the consequences. Kautilya is against a last-ditch stand, which to him reflects false heroism without any strategic gain. Kautilya emphasizes strategic flexibility. He writes that the weak ruler, instead of taking the offensive, should wait for the strong ruler inside forts, which should have adequate supplies of stores and manpower. The king should leave the fort before he is completely cut off by the besieging enemy army and take refuge in another fort. However, Kautilya is not advocating a pure passive defense. He writes that, by taking position within the fort, the weak ruler is temporarily following strategic defense, and should use the breathing space to try and break the alliances of the invader. Simultaneously, the weak ruler must try to form a counteralliance, and should replenish his armed strength. In addition, the weak king should try to incite trouble within the domains of the invading ruler, so that disturbance within his home territory will force the invader to redeploy troops to his own kingdom.

The Theory: The term "artha" means wealth or riches. At times, *artha* also means "purpose," that is, means to bring order. *Artha* also connotes desire for some gain or favor, whereas "shastra" means literature or discourse. *Arthashastra* teaches that strength is power, and that power may be of three kinds: intellectual strength, which provides counsel; a prosperous treasury and a strong army, which provide physical power and valor. The latter is the basis for energetic action. The success resulting from each one is, correspondingly, intellectual, physical, and psychological.

Kautilya writes that states pursue power in the international arena for survival, and that power for power's sake becomes the objective of all the polities operating in the international arena. The *vijigishu* attempts to increase his own power. Augmenting one's own power requires preparing for war. Active hostility is waging war. A king superior to his enemy in power shall attack his neighbor.

The normal state in international affairs is *matsanya*. The term means a state of disorder inside a pond, where small fishes are being eaten by a big fish. Kautilya applies this term to interstate relationships. The big fish represents the *vijigishu* and the small fishes are the weak powers. For Kautilya, the original state of international order is of total anarchy where might is right. The *Arthashastra* preaches the ideal of conquest: the *vijigishu* should be desirous of *digvijaya*, which is defined as control over the subcontinent.

Kautilya says that there are several types of conquest. *Dharmavijayin*, means making conquest for the sake of glory—the ruler is satisfied with mere submission of his enemies. *Lobhavijayin*, by contrast, is defined as making conquest out of greed. In this scheme, land, and money is taken from the conquered people.

Finally, *asuravijayin* involves the killing of the defeated king and the appropriation of his land, money, sons, and wives by the conqueror. Kautilya writes that the *vijigishu* should follow the policy of *dharmavijayin*—otherwise all the members of *mandala* (in this context circle of states within the subcontinent) would combine against him.

Kautilya is pessimistic: his philosophy accepts that internal divisiveness and external aggression are inevitable and interlinked. Troubles in the core might encourage the external powers to threaten the periphery of the state. Again, disaffected subjects may join hands with the ruler's external enemies. To avert these threats, the prime weapon in Kautilya's arsenal is diplomacy. The *dutas* (envoys) implement the diplomatic policies of the ruler, whose maneuverings are centered round the theory of *mandalas*. *Arthashastra* notes that the conqueror imagines the community of states as a wheel. The *vijigishu* is at the hub and his allies, drawn to him by the spokes though separated by intervening territory, are its rim. The enemy becomes vulnerable to harassment and destruction when he is squeezed between the conqueror and his allies.

Kautilya assumes that the enemy's enemy is one's friend. In geographical order, the five types of king directly facing the *vijigishu*'s kingdom are listed as: *Ari* (enemy), *Mitra* (friend of the *vijigishu*), *Ari-Mitra* (friend of the enemy), *Mitra-Mitra* (friend of the *vijigishu*'s friend), and *Ari-Mitra-Mitra* (friend of the enemy's friend). Rearward in the geographical order are the following: *Parshni-Graha* (rearward enemy), *Akranda* (rearward friend), *Parshni-Graha-Sara* (friend of the enemy in the rear), and *Akranda-Sara* (friend of the friend in the rear). The circle is completed by *Madhyama* (the intermediary or neutral situated close to the *vijigishu* and to the latter's immediate enemy) and *Udasina* (the neutral situated beyond the territory of all those enumerated above and in a position to help or resist the *vijigishu*).

According to Kautilya, internal insecurity is more dangerous than external invasion. An internally insecure polity will never be able to wage war successfully against external enemies. Several types of internal strife might occur. One is the revolt by the ministers or by the army. Even the *purohita* (chief priest) or the crown prince might hatch plots against the ruler. Kautilya prescribes that in cases of treachery, either the leaders of the conspiracies should be won over, or they should be executed. Kautilya also mentions the presence of martial clans inside the kingdoms. They practice agriculture, but in case of necessity might resort to arms. The marriage relations between various martial clans might result in an alliance directed against the ruler. Another source of danger is the *Atavis* (armed jungle tribes). To defuse the danger posed by the *Atavis*, the text prescribes a policy of co-optation: the forest chieftains should be granted internal autonomy and in return, the ruler should absorb the armed males of the forest tribes within his own army. Such contingents of the jungle tribe are called *atavi bala*. Kautilya accepts that the combat effectiveness of such troops is quite low: they are interested more in plunder than in combat. Kautilya describes the *atavi bala* within the imperial army as similar to having a snake inside the house. The *bahrikas* (wandering tribes or gypsies) and the *manavas* (criminal tribes) also pose a threat to the state.

To avert general revolt within the society, the ruler should implement *bhedniti*, that is, encouraging mutual hostility and suspicion of the different groups, thereby producing conflict between the various groups. This would enable the ruler to maintain his rule. To prevent the *senapati* (commander in chief) from becoming overpowerful, Kautilya says that the king should balance him by keeping separate military contingents under different commanders.

For maintaining hold over the various groups of rebels, Kautilya emphasizes state surveillance; hence, his focus on the utility of spies. Spies are to be used both for keeping a watch over the state's own territory, and for watching foreign states. This is because the external enemies sponsor the internal rebels. As far as the domestic sphere is concerned, the secret agents should move around in public places to discover whether the common people are loyal to the monarch or not. Kautilya encourages the polity to utilize the other-worldly image of religious mendicants: spies in the guise of ascetics should roam in the cities and the countryside. Kautilya also urges the state to use traders as spies. Because the profession of the merchants takes them to foreign countries, the traders are well suited to function as the eyes and ears of the government for acquiring foreign intelligence.

Kautilya warns the ruler that coercive power of the state should be deployed with care. Unjust or improper use of power might result in *kopa* (revolt of the subjects against the ruler). *Arthashastra* elaborates on different techniques for pacifying insurgency in disturbed areas. The *vijigishu* is advised to win over the people's "hearts and minds," and not to terrorize or economically exploit them. Destruction of the rebellious subjects, says Kautilya, is ruinous in the long run. The conqueror is to adopt the dress, language, and customs of the recently conquered subjects. In addition, respect must be shown to the deities, festivals, and fairs of the conquered people.

Arthashastra demands absolute control by the monarch over the state machinery. The state, in Kautilya's paradigm, consists of the following elements: capital, territory, army, treasury, and ally. A state possesses three types of *shaktis* (power or energy). First, the energy, bravery, and personal drive of the king constitute *utsaha*. Second, the material resources, meaning the treasury, and the army constitute *prabhava*. And finally good counsel and diplomatic alliances constitute *mantra*. Kautilya writes that *prabhavashakti* is more important than *utsahashakti* and *mantrashakti* is more important than the former two.

While fighting, writes Kautilya, the ruler should take care of *desa* (terrain) and *kala* (climate). The interrelationship between *desa*, *kala*, and *shaktis* generates military power of the state. When the state is forced to conduct regular warfare, the ruler has the option of either conducting positional warfare based on *durgas* (forts), or of offering battles with his army. Kautilya prefers siege warfare. He writes that the capital of the kingdom must be strongly fortified, and that capturing enemy forts is the principal strategic objective in war. In such conflicts, elephants play a vital role.

Instead of structuring the army around the social status of the personnel, Kautilya prescribes wide-ranging military training. Given military training, argues Kautilya, even Vaisyas (commercial caste) could fight as efficiently as the Kshatriyas.

He stresses that, except on holidays, the soldiers must undergo constant training. On a regular basis, the ruler should carry out inspection of the army engaged in training. Kautilya refers to the necessity of drilling the troops and realistic combat training. *Arthashastra* also notes the importance of good horses, which are available in Sindhu (Indus) delta, Kamboja (Gandhara in eastern Afghanistan), and Bahlika (Bactria in Central Asia). Kautilya recommends state factories for manufacturing weapons for the army.

Kautilya emphasizes generalship for winning wars. He writes that before actual fighting, the ruler should assemble the troops and stress the pecuniary aspects of military service. The king should say that he is also a servant of the state like the ordinary soldiers. Besides rhetoric, the king should attempt to raise the morale of the troops just before the onset of battle through the *mantrins* (ministers) and the *purohita* (chief priest). For strengthening combat motivation of the soldiers, the *senapati* should declare rewards for outstanding acts of bravery. In addition, the bards shall tell the soldiers that heaven awaits the valiant and that hell shall be the lot of cowards. By contrast to the role of the hoplite commander, *Arthashastra* says that the general or king should not take his place in the front rank, but should remain with the reserve at a distance of approximately 360 meters behind the main body of troops. The reserve should be used either to reinforce the contingents that have penetrated the enemy line or to parry an enemy counterattack.

Kautilya says that each army should have a secure line of retreat. The site of the battlefield should be such that there must be a forest fort or a mountain fort in the rear where the army could take refuge in case it is defeated. At some distance behind the battlefield, a secure base camp should be set up. This camp should be able to supply provision and reinforcement to the main army confronting the enemy force. Technicians and carpenters are to accompany the army to mend the chariots and the *yantras* (stone-throwing machines). The logistical infrastructure of the army comprises surgeons and physicians with medicines and bandages for treating the wounded soldiers. Women should accompany the army, and they are to provide food and drink.

As regards battle tactics, Kautilya describes various *vyuhas* (battle arrays) depending upon the configuration of the terrain. When the strengths of the two opposing armies are equal, the side making greater use of terrain, time, and soldiers shall win. In general, an army deployed in the battlefield has a center, two flanks, and two wings. At times, the wings have more strength compared to the center. There are different modes of attack; for example, in the “truncheon” formation, the center, flanks, and the wings advance in a straight line.

Kautilya is a proponent of combined-arms tactics. A mounted soldier should be accompanied by six foot soldiers. A chariot or an elephant is to be surrounded by five troopers and 30 foot soldiers. A combined battle group comprises nine chariots, 45 cavalymen and 270 foot soldiers. Such a battle group has three rows and each row has three chariots. A bigger combined battle group is composed of 315 chariots, 1,575 cavalry, and 10,000 foot soldiers, with 21 chariots in each row. However, at times, pure battle groups composed of only