

The Art of Warfare
in the
Age of Napoleon

GUNTHER
E. ROTHENBERG



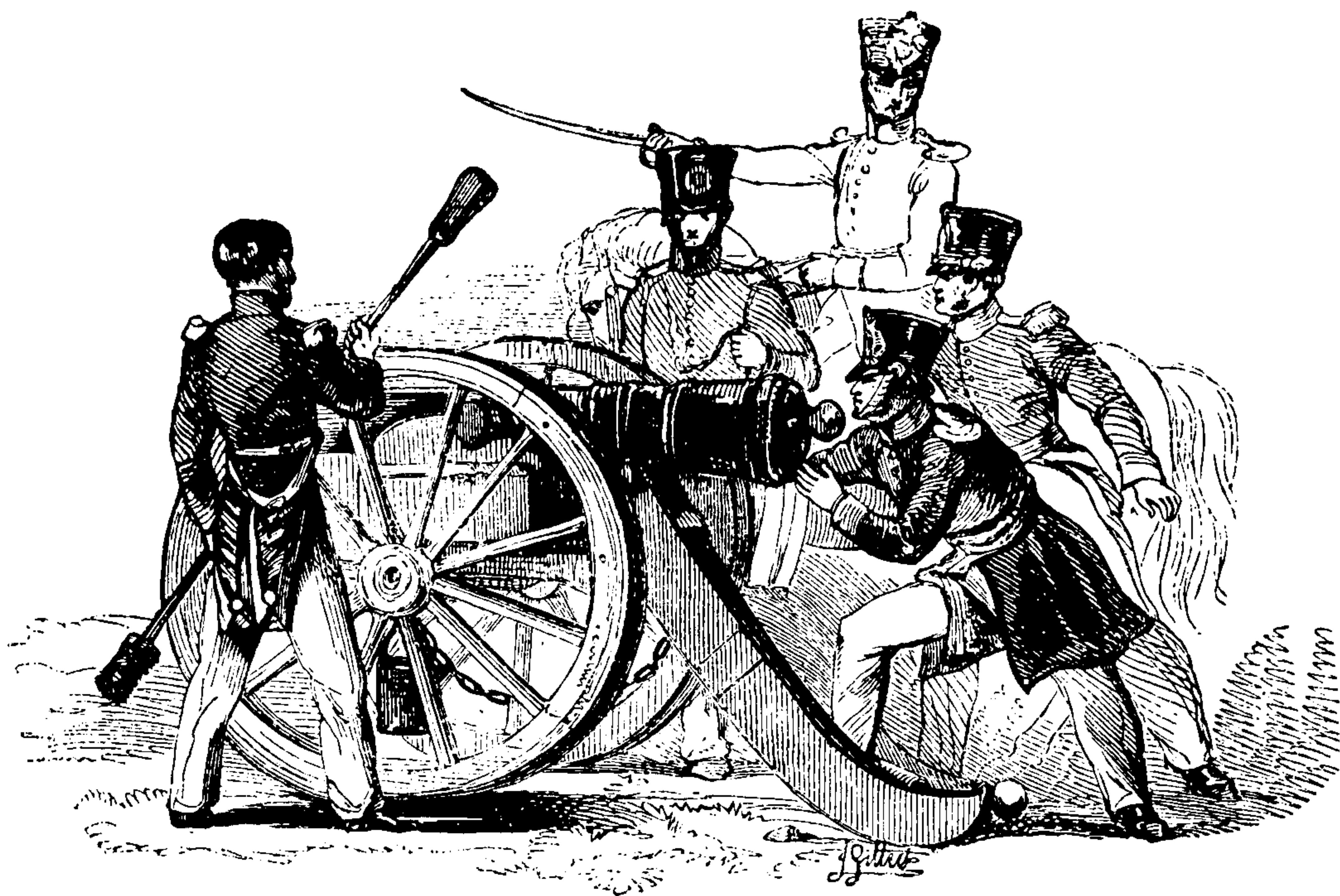
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Preface

The era of the Wars of the French Revolution and Napoleon has been one of the favourite topics for historians, writers of memoirs and biographies, and for documentary compilations. Some 12 years ago it was estimated that well over 300,000 works existed on this period and since then several thousand more have appeared. Therefore, it might be reasonably argued that there is little room for another volume. Nonetheless, this vast outpouring of literature has usually dealt with major leaders, specific battles or campaigns, and with certain branches of the service. Moreover, at least in English, the literature tends to concentrate primarily on the French or British armies. There appears to be a lack of works combining a description of the major changes and trends in the art of war, especially at the cutting edge of events, with a discussion of the French military establishment and the armies of the major opponents, British as well as continental. And while this book is only a brief survey, I do believe that it may serve as a contribution towards filling this gap in our historical knowledge of military institutions and fighting men.

It is, of course, necessary to acknowledge the limitations which this approach and considerations of space have imposed. This volume is mainly concerned with the techniques and conditions of warfare on the fighting level. Intricate organizational details, strategic interpretations, and analyses of the major commanders and their decisions have been only lightly touched upon. Also, little has been said about the development of military theory. Although many of the commanders applied calculations of a high order to their planning, they basically were pragmatists. Overall, questions have been covered in accordance with the author's best judgment.

Any survey of so vast a subject is built on the work of many other scholars and I have freely drawn on their many books. In particular I am obliged to Messrs Brett-James, Chandler and Duffy, who have made the Department of War Studies at the Royal Military Academy, Sandhurst, into a major stronghold of Napoleonic scholarship. In this country I am deeply indebted to my friend Professor Peter Paret of Stanford University. I am obliged to the librarians of the US Army Military History Research Collection, Carlisle Barracks, Pennsylvania, and to Dennis Parks of the Purdue University

Library, for bibliographic aid. Beyond this, the book is primarily the result of nearly twenty years of teaching courses in the history of land warfare to undergraduates at the University of New Mexico, Southern Illinois University, and Purdue University. Except for a reduced teaching load in the spring semester of 1967 and for typing help by the secretaries of the Department of History at Purdue University, the support required for completing this volume has been provided by the Rothenberg family. For this, and for their understanding and patience, I am grateful to my daughters Judith, Laura, and Georgia, and above all to my wife, Ruth. Much of the painstaking work involved in bringing this book to press devolved on my editor at Batsford, Mr Michael Stephenson. It goes without saying, that I alone remain responsible for the errors of commission and omission which surely exist in a work of this nature.

I

Armies and Warfare during the Last Years of the Ancien Régime

On 20 September 1792 the combined armies of the French Generals Dumouriez and Kellermann faced a Prussian army commanded by the Duke of Brunswick near Valmy in north-eastern France. After exchanging heavy artillery fire for several hours, the Prussian infantry formed up for the assault. Only too aware of the Prussian reputation, even the bravest French soldier must have felt some apprehension. But, despite the explosion of an ammunition cart, they held their ground. Faced with an unexpectedly resolute enemy, Brunswick halted the advance before it had come into musket range. 'We are not going to fight here,' he decided. The cannonade continued for a few more hours, then heavy rain and early darkness ended the engagement. Ten days later Brunswick negotiated a peaceful retreat and led his army back across the frontier into winter quarters.

Although the cannonade at Valmy had cost but a few hundred casualties, it was a watershed in the history of war. A 'people's army' had defeated the old order. Two patterns of warfare, the one limited and now becoming obsolete, and the other, potentially unlimited, had collided for the first time. That night the young Goethe, who had accompanied the Prussians, commented: 'From this place and day commenced a new epoch in the world's history.' He was right. 'The wars of kings,' Marshal Foch wrote, 'were at an end; the wars of the peoples were beginning.' And a noted soldier-historian put it in even clearer perspective, from the 'military point of view it was the end of a world'.¹

The nature of eighteenth-century limited war

During the century before Valmy the wars of the kings had evolved into formal affairs, pursued with limited means for limited objectives. Monarchs decided on war and peace by calculating gains and costs in terms of their interests; the people neither were consulted nor normally expected to contribute much to the fighting which was left to small professional armies. And in the absence of any national or ideological content it was not in anyone's interest to seek the total destruction of the enemy. Costly pitched battles were

avoided when possible; manoeuvre not combat were the principal operations of war. The most accomplished strategy, so General Lloyd, author of a *History of the Late War in Germany* (1776–90), advised, was to ‘initiate military operations with mathematical precision and to keep on waging war without ever being under the necessity to strike a blow’.² Campaigns aimed to place the opponent in an untenable position after which the enemy, accepting the rules of the contest, capitulated on terms. To surrender a fortress or an army in the field was not considered dishonourable; no general ever thought of fighting to the last man. In this framework the Duke of Brunswick, a nephew of Frederick the Great of Prussia, who had conducted an almost bloodless but successful manoeuvring campaign in 1787 in Holland was considered a great strategist and his refusal to fight at Valmy was quite reasonable. He retained the confidence of Prussia’s king, commanded the Prussian armies during the campaigns against France until 1795, and in 1806, having aged but changed very little, presided over the destruction of these armies at Jena and Auerstädt.

The limited and formal nature of warfare in the eighteenth century was the result of political, social, economic, and military constraints. No longer raised for one campaign only and then disbanded, most regiments now were permanently embodied, a standing force serving absolute monarchs. Although small by comparison with later mass armies, such an establishment placed considerable strain on the royal treasury and the general economy. More and more resources had to be devoted to maintain a respectable military posture. Prussia, an exceptional case to be sure, spent approximately 90 percent of its revenue for military purposes in 1752, while in 1784 France expended two-thirds of its budget on the army alone.

The armies were regular forces, but not national armies in the modern sense. Their officer corps were composed primarily of aristocrats, natives as well as foreigners, and transfer from one service to another was common. Everywhere the highest positions were reserved for members of the ruling house and the great families; in the lower ranks connections and birth counted for less. Most officers came from the lesser nobility, but a few bourgeois could be found in many regiments and especially in the technical corps, the artillery and the engineers.

Whatever their origins, officers were a world apart from the rank-and-file. Among the population generally service in the ranks was considered neither honourable nor desirable, views reflected in the works of the major literary figures of the age. In Voltaire’s *Candide* and in Smollet’s *Roderick Random*, for example, the picture of military life is dismal. Although most Continental states had some form of conscription on the books, economic considerations precluded the enlistment of productive and tax-producing elements, so that in practice the soldiery was composed of the socially and economically least valuable, labourers, poor peasants, vagabonds, criminals, and foreigners. Even then it was difficult to find enough soldiers and as difficult to retain them.

Sometimes abject poverty drove men to soldiering and usually the ranks were filled by coercion and deception. Many rulers maintained recruiting

agents in foreign countries, and foreign nationals also were enlisted in complete units, often considered elite troops. The most famous, of course, were the Swiss regiments serving France, Holland, and Venice under special contracts, but Irish and Walloon regiments could be found in many armies.

Everywhere governments skimmed on the upkeep of their army. Pay was low, quarters wretched, and often soldiers had to look for odd jobs to fill their stomachs. In poor countries like Prussia this was, in fact, a deliberate part of the system, but the practice also was common in England and France, and in other states. British soldiers habitually hired themselves out for menial part-time jobs, while French soldiers hoped for garrison duty at Brest, where 'everyone could find a job', and prayed to be delivered from the 'plague and famine of service at Bergue and Graveline'.³

Compounding the misery of a soldier's life was a most ferocious and brutal discipline. Floggings, beatings, and other physical punishments were imposed for trivial offences and the death penalty was prescribed for a wide range of crimes, especially as a deterrent to desertion which in the eighteenth century was common in all armies and reached appalling proportions in wartime. Yet, the need for trained manpower sometimes forced commanders to mitigate these regulations and strenuous efforts were made to entice deserters back into the ranks. Fear of desertion, together with the restricted supply of manpower, imposed real restraints on the conduct of war. The most striking consequence was the reduction in fighting.

The universal adoption of flintlock muskets and bayonets had made fire tactics supreme and pitched battles, fought by infantry shoulder to shoulder trading volleys at distances suited to duelling pistols, could be very costly. At Torgau (1760) the Prussians lost 30 percent of their effectives, while at Zorndorf (1758) the Russians suffered losses of over 50 percent. Such casualties in killed, wounded and missing, could not be replaced easily. To execute the intricate evolutions, to load and volley in cadence, and to perform all this under fire, required an iron discipline that, in the opinion of contemporary commanders, took years to instil. A steady battalion, it was believed, should have no more than a third of its men raw. Therefore, generals avoided accepting battle except under the most favourable conditions, combat often was broken off prematurely, and even the victor seldom dared to launch a pursuit in depth for fear of losing control over his troops.

Similar considerations affected marches and encampments, both rigidly regulated to minimize opportunities for desertion. Field armies moved slowly, encumbered by a huge train of pack horses, wagons, and other conveyances. Tentage took up most of the transport. Even the Prussian army, perhaps the most controlled and frugal of all, allotted 60 pack horses per regiment for tentage. Every company commander was entitled to a carriage and two saddle horses, while staff and general officers took along five to ten times as much. Tents, of course, were not just luxuries. They provided shelter for men and equipment and were considered a necessity to keep powder supplies dry.

But there were other impediments. Most officers, especially French and

Austrian, liked to display their wealth in the field. Foot-men, cooks, servants, hairdressers and other domestics often accompanied field armies together with actors, actresses, mistresses and, occasionally, wives. Camps were like small cities. Sutler's wagons, carriages for the ladies, tents selling all manner of goods and services surrounded the orderly military lines. There were squad tents for the men, wall tents for the officers, and elaborate marquees for senior commanders. To prevent surprise and desertions, camps were well guarded. Usually there were outposts and pickets, camp and quarter guards, and on occasion encampments were protected by small field fortifications. To strike camp and march required time, and usually the marching day was limited to five hours or so.

Fear of desertion and the desire to spare civilian society the ravages of war, demanded that foraging be forbidden or at least sharply restricted. Armies had to be supplied by huge wagon trains which in turn depended on magazines, usually well established in advance of a campaign. To supply 50,000 men 15 miles from their base required some 100 wagons daily and five to seven days marching distance from the nearest magazine, between 50 to 80 miles, was considered the maximum practical operational range. Bad weather, of course, limited the range of wagons even further, and it also hampered the movement of the still heavy field artillery. Therefore, armies normally retired into winter quarters and re-emerged in the spring.

The lines of communications and their magazines thus assumed a paramount strategic importance. To safeguard these, fortifications sprouted up all over Europe, attacked, besieged, defended, and surrendered according to precise rules and customs. Fortresses became primary strategic targets, but they further slowed down the conduct of operations.

Battle tactics of limited war

Field armies, rarely exceeding 50,000 men, were very similar throughout Europe. They did not exist in peacetime but were formed at the opening of hostilities from existent regiments, their component battalions or squadrons providing the basic tactical units. There was little variance in organization or armament, and therefore also in tactics. Although cavalry still was numerous, up to a fourth of the total, its role diminished as infantry and artillery fire became more deadly. Massive volleys rather than the collision of mounted men decided battles. Even so, the flintlock musket remained a highly inaccurate and rather unreliable weapon and there was a common saying that to kill a man required expenditure of an amount of lead equal to his weight. This might appear exaggerated, but it was true. Ammunition expenditure was enormous; Guibert, the famous French theorist, estimated that in an average battle half a million rounds were expended.⁴

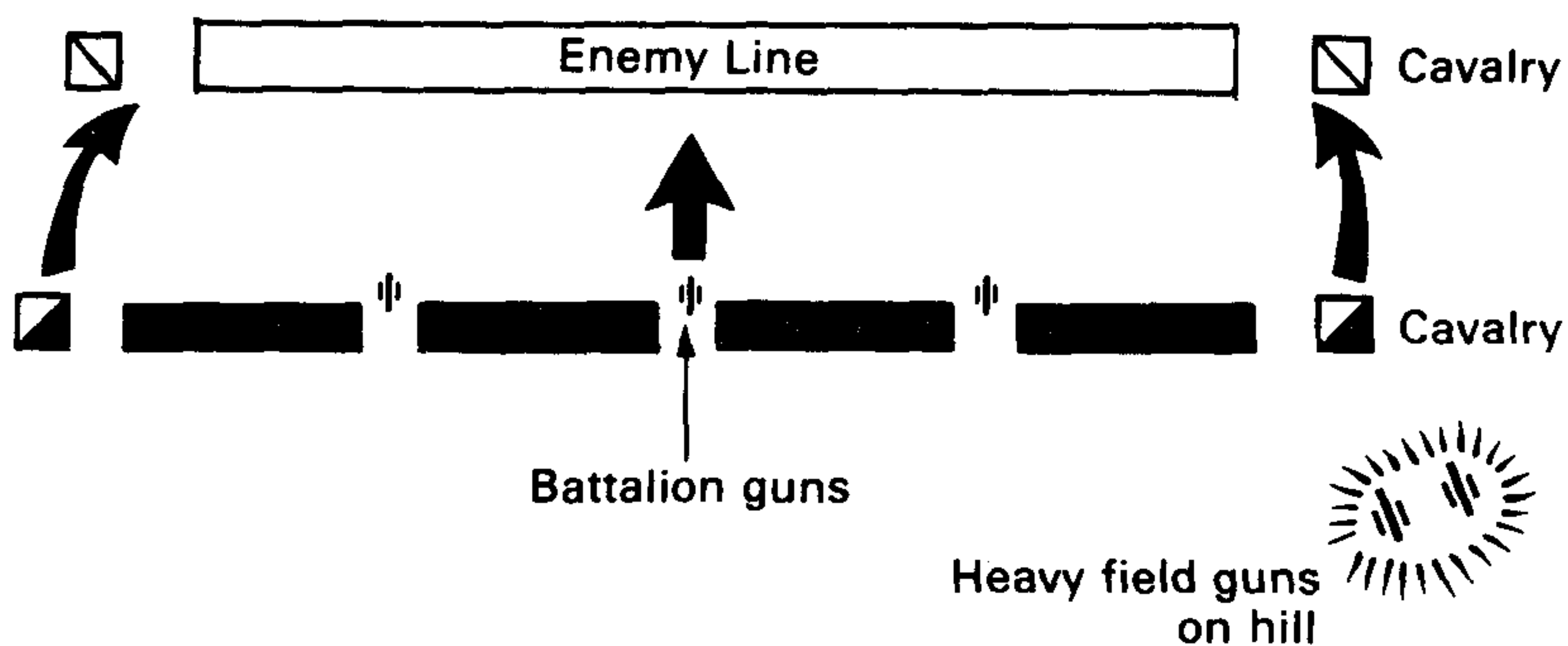
The limitations of the musket determined battle tactics. To compensate for the extremely low accuracy of the individual shot, mass fire was required and to achieve this battalions were formed in elongated lines, three deep, firing volleys on command. To form and manoeuvre such an order of battle, as much

as 20 battalions wide, required the utmost precision in evolutions. Alignments had to be straight, distances correct, and commands perfectly timed. The drill of the parade ground actually was used on the battlefield and officers had to be competent professionals, while the troops had to be prompt and accurate in executing orders, march in step, usually a stately 75 paces a minute, load and fire in cadence. Bayonets were carried fixed at all times, but shock action clearly was secondary to fire.

Artillery added its weight to the volume of fire. By the middle of the eighteenth century it had become militarized and shed the last remnants of its ancient guild status. Generally, armies were well supplied with field pieces, firing 6-, 8-, or 12-pound projectiles, though they still lacked organic transport. Guns and their ammunition supply were dragged to the battlefield by hired civilian drivers. Moreover, until the Seven Years' War (1756–63), pieces remained very heavy and were usually placed in a position from which they rarely moved during action. The effectiveness of artillery support, therefore, depended on the siting of guns previous to battle and, if this was well chosen, they sometimes could exert considerable influence. Smaller pieces, 3- or 4-pounders, 'battalion' or 'regimental' guns, were issued to the infantry and manhandled during the advance, but their effectiveness was limited due to the low weight of their shot. Overall, artillery was undergoing a rapid evolution from the middle of the century on, becoming lighter and more manoeuvrable, and equipped with better aiming devices.

In battle, armies deployed in two parallel lines of battalions, the second some 150 to 200 paces behind the first. The cavalry was stationed at the wings and its primary mission was to counter the enemy's horse. On occasion, especially if the opposing infantry was not yet deployed, such as at Rossbach (1757) horse was launched against foot with excellent results. Also, if cavalry drove its opponents off the field and was able to rally, a feat often achieved by Prussia's well-drilled horse under General Seydlitz, it could be hurled against the enemy's unprotected flank or rear. These missions were the duties of heavy battle cavalry, cuirassiers and dragoons, while light cavalry were used to screen the army on the march and during deployment. Pursuit and scouting duties also fell to the light horse.

FIG. 1. Classic linear formation.



Battles of this type required suitable open and level ground. Hills, ridges, swamps, and woods would break up the formations. Weather also was important. Cannon could not be moved across muddy ground; cavalry was slowed to a walk, even infantry was hampered in its evolutions. Heavy rains, moreover, prevented the discharge of artillery and muskets. Finally, the deployment of an army took time.

The warfare of Frederick the Great

To break completely with the patterns of limited war would require a political and social upheaval, but after 1740 Frederick II of Prussia, better known as Frederick the Great, brought the eighteenth century system to its highest potential. And in many ways his realistic, calculating, and even brutal approach was a departure from contemporary practice. It is perhaps revealing that Napoleon regarded him as one of his main preceptors.

Until the advent of Frederick, France had been considered the leading military power, but now Prussia surpassed her and gained an influence in military affairs out of all proportion to its size and wealth. A remarkable series of rulers laid the foundations for Frederick's achievements. On his accession there existed a well trained and disciplined army, 80,000 strong, a very large force for a country with a population of but two and a half million and no extensive natural resources. When he died in 1786 the army was 200,000 strong, while the population had doubled. To maintain such a military establishment required the concentration of all available resources. Little was spent in Prussia on the luxuries that bankrupted France and Austria; frugality, hard work, and an honest, if sometimes heavyhanded, administration were the hallmarks of the Prussian state. France in 1740 had an army of 160,000 though its population was ten times that of Prussia and its revenues eight times larger, while in the same year Maria Theresa's Habsburg Empire could not muster an army adequate to meet Frederick's attack.

The Prussian army drew its strength from peculiar Prussian institutions and practices. Its officer corps was without rival. Conscripted from the poor landed nobility, the *Junker*, the Corps displayed unmatched dedication, diligence, and professionalism. The Prussian officer entered the army as a boy, was commissioned in his teens, and often remained in the service for the rest of his life. His regiment became his universe and though poorly paid, he was rewarded by membership in the first estate of the Prussian realm. The King, the first soldier of the state, habitually wore the uniform and took a personal, if on occasion capricious interest in each and every member of the corps. Only very few men of non-noble origins were admitted, the King believed that they lacked the requisite sense of honour, and he dismissed them as soon as they were no longer needed. The performance of the army was further improved by the non-commissioned officers, sergeants and corporals, privileged men of unusually high competence.

The rank-and-file was procured from two main sources: conscription of natives and enlistment of foreigners. Since 1735 the Prussian monarchy was

divided into regimental replacement districts, called Cantons. In each Canton all men were registered for service, and though wide social groups and indeed whole areas were exempted, each regiment could annually fill its needs from its own district. Those enrolled, but excess to actual requirements, remained on the regimental rolls as a reserve pool, while recruits actually called up received their initial training and then were furloughed to their homes contributing to the economy. These native conscripts, especially those from the Mark of Brandenburg and Pomerania, often revealed a surprising devotion and loyalty to the King that was reinforced by the tenets of the Lutheran faith. And after the victories over the Austrians and the French it became a matter of pride even for a simple peasant's son to serve in the victorious regiments of the great King.

Frederick, however, made little use of these early stirrings of a regional patriotism. On occasion, to be sure, he would appeal to his men in a style later used by Napoleon. At Zorndorf, for instance, he dismounted, seized the colours of the Bülow Fusilier Regiment, and personally led the men forward. But basically he believed that his subjects were of more use as taxpayers than as soldiers. Discipline, he was convinced, could make men fight and foreigners were cheaper than natives. At the onset of his reign natives outnumbered foreigners two to one in the army and though the King did not hesitate to impress entire enemy formations, the series of wars made foreign recruiting more and more difficult. In 1763, at the end of the Seven Years' War, his army comprised 103,000 natives and only 37,000 foreigners. During the following years Frederick set to reverse the ratio. He decreed increased exemptions from military service, vigorously pushed recruiting abroad, lowered standards for enlistment, and provided minor improvement in living conditions. By the time of his death foreigners outnumbered natives by two to one, which contributed to a definite lowering of quality.

Frederick's combat tactics combined the use of all arms. Cavalry and artillery played a major part in almost all of his battles, disrupting the enemy's deployment and supporting the infantry's advance. In several of his victories, above all at Rossbach (1757), his cavalry squadrons 'charging like a wall' shattered the enemy, while later the same year at Leuthen batteries of heavy artillery contributed much, perhaps decisively, to success. Even so, the infantry attack remained his primary instrument with well-aligned ranks advancing, changing front, volleying, and charging with unequalled precision. Like Napoleon, Frederick thought highly of the bayonet. In his early campaigns he ordered his infantry to advance with cold steel only, but experience soon revealed that this was impossible even for his best regiments. Massive volleys became the decisive element of his infantry combat and in his *Military Testament* of 1768 he concluded that 'infantry firing more rapidly will undoubtedly defeat infantry firing more slowly'.⁵

To achieve the highest possible volume of fire, Prussia already before 1740 had replaced the breakable wooden ramrods with iron. Constant drill raised the Prussian rate of fire to three and even four rounds a minute and because speed was all important, the number of movements required to load and fire

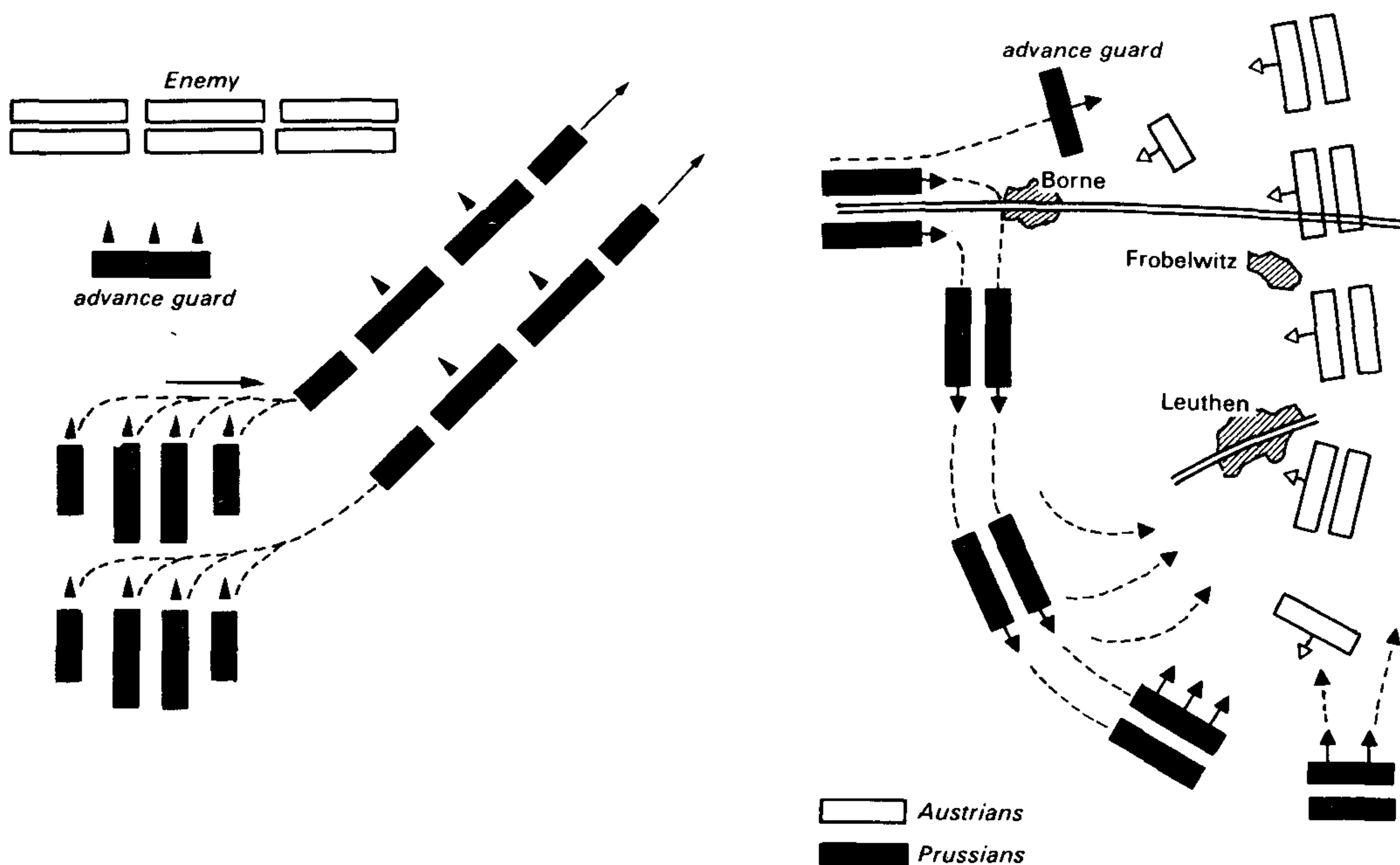


FIG. 2. The oblique order of battle. *Left*: advance guard screens the main body from the enemy. The main body shifts obliquely in column and forms a line to fall on the enemy's flank. *Right*: Frederick's execution of the manoeuvre at Leuthen, 5 December 1757.

the musket were reduced. In 1777 a double-ended ramrod eliminated the need to reverse the ramrod before reinserting it, and the musket itself was redesigned in 1781 with a conical touchhole which primed itself from the main charge. But, although a slight angling of the butt would have improved accuracy by as much as a third, nothing was done. In fact, aiming, consuming precious time, was forbidden. In any case, the bayonet obscured the rudimentary front sight.

The rapid fire* of Frederick's 'walking batteries' inflicted casualties and shook the morale of his opponents, but his most important contribution was to restore manoeuvring to the battlefield. By dividing his battalions into platoons he was able to manoeuvre in columns of platoons across the enemy front, the short range of small arms made this a practical move, and he then

* These rapid and continuous volleys achieved three or even four rounds unaimed per minute; in practice there are reports of five and even six rounds blank. However, everything depended on the proficiency of the particular unit at that particular time. Moreover, the high rate of fire could be maintained for brief periods only. In theory, the Austrians and French should have achieved the same speed, but due to less dedicated officers and less drill they probably achieved only two rounds per minute – but this is really speculation. Neither Delbrück, *Geschichte der Kriegskunst*, vol. IV, 329–32, nor any other authority has given exact figures. After about 1780, Prussian regulations speak of four rounds per minute, but it is not clear whether this is a goal, or actual performance. The Austrian regulations are mute and merely stress speed.

could wheel them into line against the enemy's weakest flank. This method, in which one wing of his army was reinforced while the other was refused, became his famous 'oblique order of attack'. Of course, it was not new, but only the Prussian army had the precision to execute it successfully.

At the same time, the King was an excellent strategist. His slender military resources induced him to take, whenever possible, the offensive and to destroy the enemy in battle. To achieve the necessary concentration of force, he willingly sacrificed territory, even his own capital. But the total destruction of the enemy's armies often eluded him. He remained tethered to a cumbersome supply system and was unable to exploit the full potential of his victories in a deep pursuit. Facing great odds during the Seven Years' War, he finally was forced to conduct a war of attrition, hoping for the break-up of the hostile coalition. And this, of course, happened. Luck, a prerequisite for a great captain, did not desert Frederick.

After 1763, however, the Prussian army began to decline. Too many promising officers had been killed off in the wars and the King's prejudices barred promising bourgeois from his service. The enlistment of more and more foreigners reduced tactical flexibility and the creation of new Cantons in the territories acquired in the First Partition of Poland (1772) did not add reliable manpower. Above all, however, the Prussian service was no longer forward looking, becoming instead ever more rigid, conservative, and concerned with the punctilio of 'spit and polish' and the perfection and refinements of drill. Officers like General von Saldern, who solemnly pondered whether 76 paces per minute were not perhaps better than 75 paces a minute, came to have much influence.⁶ During the last years of the Frederician army, the dark shadows of defeat already loomed on the horizon.

The imitators of Frederick

But for the moment the victories achieved by Frederick were too overwhelming not to invite imitation. Foreign observers flocked to Potsdam to attend the annual reviews and demonstrations, and frequently the exact drill and evolutions were considered as the main secret of Prussia's success. Books extolling the virtues of Prussian drill found a ready sale and in all things military the Prussian example was eagerly emulated. It was a period of considerable ferment and agitation in military circles, yet many disputes were settled by the statement: 'Oh, but I saw it in Prussia'.

Spain and Russia introduced Prussian drill and Austria followed with Daun's regulations of 1769, close copies of the Prussian model. Even the French regulations of 1764 were indebted to Frederick for some details and in the 1770's, Guibert, perhaps the most important of the reformers, borrowed from Prussia the method of deploying from the centre of a formed column into line. This evolution was formalized in the French regulations of 1791 and remained in use during the French Revolutionary and Napoleonic Wars. And the small British army, preoccupied with colonial warfare and indifferently administered, got along without a standard set of regulations for the move-

ment of formed units, until it adopted the *Principles of Military Movement* by Colonel Dundas, another admirer of Frederick.

Light infantry in the eighteenth century

While during the wars of the eighteenth century the rigid patterns of the line and of limited mobility prevailed for the most part, there also arose a need for 'light' troops, capable of both scouting and raiding, and also for employment in situations where the line regiments could not operate. The first requirement was met by the augmentation of light cavalry, a branch that never had gone out of style in eastern Europe. Hussars, *Chasseurs à cheval*, 'Light Dragoons', and others, often wearing elaborate uniforms adapted from the Hungarian light horse in the Austrian service, appeared in western European campaigns and by the middle of the century had become a standard component in all cavalry. And because of the nature of their duties light cavalry troopers had to be reliable men, they were chosen carefully, treated better than ordinary soldiers, and soon came to be regarded as an elite force.

Light infantry also had never disappeared completely. Most European states had retained small bodies of reliable *Jäger*, hunters and rangers of the great forests, usually rifle armed. These acted as scouts, carried messages, and performed other individual missions. But in the use of large formations of light troops the Austrians were the innovators, fielding in the 1740's thousands of troops from the Military Border, the *Militär-Grenze*, a cordon of military settlers along their ever turbulent frontier with the Ottoman Empire. These 'fierce Croats' greatly astonished Dr Samuel Johnson and his contemporaries by their barbarous costume and manners. More important, their effectiveness in 'small war', raiding and ambushing, forced Frederick to hastily increase his light cavalry and to recruit some 'free battalions'. France also raised light infantry and cavalry, often combining them in irregular legions. In the British service 'independent companies' of Highlanders had been recruited as early as 1729, combined ten years later into the 42nd Regiment of Foot, the Black Watch. But the real development of light troops in the British army began in America where light companies were added to each battalion in the 1750's and in 1756 a light regiment, the Royal Americans, later the 60th Regiment of Foot, was established.

The Seven Years' War brought further increases in the number of light infantry. In the Austrian army of 1756 the *Grenzer*, now better disciplined and formed into regiments, constituted more than one quarter of the effectives, 34,900 foot and 6,000 horse. No longer restricted to small war, they were assigned to support the line. Deployed as skirmishers on the flanks of the battle order, they poured enfilading fire into the Prussian formations at Lobositz (1756) and Kolin (1757). In 1759 Marshal de Broglie, a forward-looking commander, formed foot *Chasseur* companies in all battalions of the French army in Germany and deployed them as skirmishers some 100 paces ahead of the line. Even Frederick, who detested light troops, was forced once again to follow suit. He hastily augmented his *Jäger* and by 1763 raised 23 new free battalions.

Despite their proven value, for reasons more political and social than military, light troops fell into the background during the last decade before the French Revolution. Basically light troops and their warfare contravened many of the fundamental attitudes and conventions of the regular officers, and their discipline, despite improvements, always had left much to be desired. Their scattered and 'disorderly' methods of fighting conflicted with the orderly and rational pattern so admired in the 'Age of Reason'. Above all, there was a reaction against non-aristocratic officers and most nobles considered command of light troops below their dignity. In Prussia, Frederick dissolved the free battalions as soon as hostilities ended, though he retained a number of Fusilier Regiments, armed with a special weapon, the Fusilier Model 1782, differing from the standard pattern by a slightly greater drop at the heel, designed to improve aiming. He also kept one regiment of *Jäger*, equipped in 1787 with a new short rifle.

In Austria too, except for small detachments of sharpshooters, armed with a double-barrelled short musket, the upper barrel rifled and the lower smooth to allow more rapid loading, all *Grenzer* regiments were reorganized and drilled as troops of the line. While this conformed with the spirit of Daun's regulations, it spoiled their 'natural aptitude which once had made them so formidable', and by 1800 one officer complained that 'the ancient *Grenzer* and Pandours, even as late as the Seven Years' War, had constituted a much better light infantry than the present regulated and drilled *Grenzer*'.⁸

Finally, despite the general reduction in forces after 1783, there was a heated debate in England over the proper role of light troops. The lessons of the American War of Independence suggested to many officers who had been employed in America a need for overhauling the army's tactical doctrines. In America skirmishing had been important and the linear order of battle had been much modified. The number of ranks had been reduced to two; the files had been opened up, and all movement had been executed loosely. All this had been necessary because of the terrain and practical because there was no danger from cavalry. On their return these officers and their new concepts collided with officers whose European combat experiences suggested a different approach. Loose order and emphasis on skirmishing aroused the ire of Colonel Dundas who fumed that light infantry 'instead of being considered an accessory to the battalion ... have become the principal feature of our army'. But Dundas also realized the need for fast as well as precise evolutions and much of the ridicule heaped on the 'pedantic Scot', and 'old pivot', for allegedly trying to cram the entire art of war into 18 evolutions is misplaced. He did prescribe the three-deep line, but this formation was also retained in the French regulations of 1791 and, except for Wellington, practised by commanders on all sides throughout the wars from 1792 to 1815.⁹

The Russian cult of the bayonet

Whether favouring the closed line or more open tactics, expert opinion generally agreed on the supremacy of firepower over shock. The most

significant exception was in Russia where General Suvorov advocated shock tactics, well suited to a country with primitive technology and with masses of illiterate, but combative serf-soldiers. Suvorov rejected the linear system and its fire tactics in favour of impetuous column attacks with the bayonet. He composed a collection of maxims, *The Art of Victory*, to raise the morale and striking power of his soldiers. The short range of the musket, which he estimated at 60 paces, Suvorov asserted, made a rapid and violent bayonet attack, delivered in small columns, capable of advancing over all kinds of terrain, the certain way to success. 'The bullet misses,' he maintained, 'the bayonet does not.' Soldiers were indoctrinated in the key points of his doctrine and at the end of each training day they repeated them in unison, shouting: 'Subordination, Obedience, Discipline, Training, Formations, Military Order, Cleanliness, Neatness, Health, Courage, Bravery, Cheerfulness, Formation Exercise, Victory and Glory!'¹⁰

Suvorov's personal style of leadership and his primitive but violent tactics were well suited to the temper and training of the warrior masses of Holy Russia. Until he came up against the French in Switzerland, he never lost a campaign, though it must be remembered that he usually fought the poorly disciplined and rather backward forces of the Ottoman Empire and Poland, and often enjoyed Austrian support, providing most of his technical services and a good proportion of the troops.

At that, there remained some basic questions about the quality of the Russian army. Suvorov received many honours from his sovereign, the Tsarina Catherine II, but the main direction of the army was in the hands of Prince Potemkin, Catherine's lover, under whom corruption and neglect negated many of the salutary aspects of Suvorov's reforms.

French Military Developments

After the Seven Years' War there was much agitation and ferment in military circles everywhere in Europe. The most important controversies took place in France where the humiliating defeats of the wars unleashed a flood of books and pamphlets that pointed out the defects and suggested reforms in organization, tactics, and weaponry. Many of these were highly impractical, but others were sound and provided the foundations for the armies of the French Republic and Napoleon.

In tactics the debate between supporters of the deep column formation, *l'ordre profond*, and those favouring the linear *l'ordre mince*, resumed. The argument actually dated back to the years after the War of the Spanish Succession (1701-14), and now it was revived. Baron Mesnil-Durand advocated the column and nothing but the column, while others suggested imitating the Frederician tactics. In the end, however, Count Guibert's famous *Essai général de Tactique*, published in 1772, proved most important. Guibert favoured a synthesis of column and line, *l'ordre mixte*, the column for movement and the line for combat. He conceded that the column was also useful for the attack against woods and fortified posts, but for general fire action he

preferred the line, three deep. Guibert was not overly concerned with the uniform alignment of the entire battle line, it was sufficient that each battalion should be aligned within itself and roughly level with the others. The main point was mobility and this required that battalions should be able to change rapidly from the column into line and from line into column. After repeated trials his system was adopted. A provisional drill book was issued in 1788, followed in August 1791 by the definitive edition that, though often disregarded due to circumstances or lack of training, remained in use until 1830.¹¹

Guibert's concept of 'tactics' embraced virtually all branches of the art of war. In his *Essai* he advocated greater strategic mobility as well as a citizen army. Troops, he advised, should discard the cumbersome supply system and the luxuries of the camp, travel light, and sustain themselves from the countryside. More rapid movement of armies was becoming practicable by the recent invention of the divisional system, first adopted by Broglie in 1759. The divisional organization, standard in France by the 1780's, provided mixed bodies of infantry and artillery, which could march in separate columns and were strong enough to fight independent actions. For battle, these divisions would rapidly unite into an army. The advantage of marching divided, but uniting for battle, particularly useful in mountain warfare, was further elaborated by Pierre de Bourcet's little book, *Principles de la Guerre des Montagnes*, thought to have provided the techniques used in Napoleon's first campaign.¹²

Finally, contemporary improvements in artillery, still considered by Guibert only as a 'most useful auxiliary', enabled guns to keep up with marching troops. Enhanced mobility on the march and on the battlefield led the Chevalier Du Teil to propose a more important role for artillery in battle. He suggested that guns should open the battle and then move rapidly to enfilade the length of the enemy line. Above all, he asserted that 'we must concentrate the greatest quantity of fire on the principal points and on the weak spots that are most threatened'.¹³ Napoleon, a gunner by training, almost certainly read Du Teil and was influenced by him.

Guibert also prophesied victory to the first European nation to develop a 'vigorous citizen soldiery'. Taking up a theme then popular among intellectuals, he argued that limited wars had made the governments of Europe weak and the peoples soft. 'But suppose,' he continued in a much quoted passage, 'that a people should arise in Europe vigorous in spirit, in government, in the means at its disposal, a people who with hardy qualities should combine a national army and a settled plan of aggrandizement. We should see such a people subjugate its neighbours.' But Guibert soon realized that such a change involved not only an army but also a government very different from that of the contemporary French monarchy, and this vision went too far for a loyal aristocrat and an admirer of the great Frederick. In 1779 he recanted. 'When I wrote that book I was ten years younger. The vapours of modern philosophy heated my head and clouded my judgment.' In his *Défence du Système de Guerre Moderne*, published in 1779, Guibert stressed the value of the long service professional soldier and emphasized that citizen armies could not

stand against regulars. Above all, he praised the system of limited war as the 'most scientific . . . and the most advantageous for governments and nations'.¹⁴

By this time, though, in distant America citizen armies actually were fighting British and German professionals and not doing too badly at it.

The improvement of artillery

The 'new artillery' that Guibert had mentioned and Du Teil had written about was just then coming into existence. Improved guns and carriages would provide greater firepower and mobility for the warfare of the French Revolution and Napoleon. Although often credited to Gribeauval, who became Inspector General of Artillery in France after the Seven Years' War, the development rested on Austrian, Dutch, English, and Prussian innovations and applications.

Artillery comprised a number of weapons with different characteristics. Cannon, long barrelled, designed to fire a solid round shot along a relatively flat trajectory; howitzers, with a shorter barrel, throwing an explosive shell in a moderately curved trajectory, and finally mortars lobbing an explosive projectile in an extremely curved trajectory. The first two weapons were also capable of firing a variety of anti-personnel scatter projectiles.

We are here concerned with field artillery only, that is guns and howitzers. Field artillery had to be mobile, which required above all a reduction in weight.

In 1742 Benjamin Robins had placed gunnery on a scientific footing, while at about the same time, beginning in Holland, new methods of casting gun barrels were adopted. Previously guns were cast hollow around a core and it was difficult to prevent the core from moving in the mould. A method of drilling a barrel that had been cast solid was devised at the Hague foundry and perfected in 1747. The Dutch tried to keep the process a secret, but without much success and it was generally adopted in Europe. Drilling produced a better aligned bore with closer tolerances, which together with more precise casting of round shot of true sphericity, greatly reduced windage, the difference between the actual diameters of shot and bore. Less gas pressure escaped and this enabled reduced charges to throw projectiles with greater accuracy and the same velocity over the same distances. Lighter charges meant that barrels could be shortened and made thinner, resulting in a significant saving in weight.

Gun barrels were produced both in bronze and iron. Bronze, a mixture of 10 parts copper to one part tin, was lighter and also considered more durable. Well-made bronze barrels could last, so experiments conducted in 1777 in Vienna showed, for 6,000 to 7,000 consecutive firings. For siege and garrison artillery, where weight mattered less, the cheaper iron barrels were commonly utilized.

During the first part of the eighteenth century France led in artillery, possessing the only unified range of artillery, the de Vallière system, com-

prizing a series of pieces from four to 24 pounds, sturdy but extremely heavy. No other power had such a complete system.¹⁵ Prussia relied primarily on its rapid musketry; English artillery was outdated and of many calibres, mainly light, and the Austrian artillery was weak in numbers and antiquated in design. Encountering the superior Prussian fire during the War of the Austrian Succession (1740–8), efforts were made to improve the Habsburg artillery. In 1744 Prince Liechtenstein was appointed its Director General. He established an artillery school near Budweis, providing both practical and theoretical instruction, as well as designs for a range of light and manoeuvrable field pieces, 3-, 6-, and 12-pounders, supplemented by some excellent howitzers.¹⁶ At the beginning of the Seven Years' War the Austrian army had been re-equipped with new light pieces, so good that other Powers copied them. Prussia adopted the light Austrian 12-pounder, and as late as 1803 France introduced an exact copy of Liechtenstein's field howitzer. Gribeauval, who served in the Austrian artillery from 1756 to 1762, undoubtedly learned much from Liechtenstein and his assistants.

Austrian improvements and the gradual destruction of his veteran infantry made Frederick lean more heavily on artillery. In addition to copying from the Austrians, he introduced a Prussian designed heavy field piece, the 12-pounder *Brummer*, and compensated for the declining quality of his infantry by increasing the number of his guns, reaching almost six pieces to every 1,000 men, a ratio far exceeding that later attained by Napoleon. Although he was primarily an infantry general, he did not shrink from experimentation. To keep pace with cavalry movements, he developed a horse artillery that moved rapidly along with the mounted troops. Of course, ultra-light pieces, galloper guns, had been employed by cavalry for some time, but Frederick's horse artillery, introduced in 1759, used light 6-pounders. The innovation caused much comment and was speedily adopted by most European countries.¹⁷

Frederick also realized that heavier shot was more effective because of its greater hitting power. At Hohenfriedberg (1745) and at Leuthen he employed heavy siege pieces, 24-pounders, to batter Austrian fortified positions; at Rossbach and Burkersdorf (1762) batteries established at important points opened the fight and protected the deployment of his infantry and cavalry columns. He also experimented with howitzers and prescribed their use to search reverse slopes and to shell enemies behind fortifications. In 1763 he ordered production of a medium 10-pound howitzer and assembled an artillery reserve of 70 such pieces.

Prussia, however, could not afford the expense of introducing an entire new system. It continued to employ a wide variety of types and calibres, and Frederick, unhappy about the developing artillery race, repeatedly complained about the ruinous cost of the new armament.

This was the situation when, on his return to France, Gribeauval was called to reorganize the artillery. He created distinct material for field, siege, garrison, and coast artillery, a complete system including weapons, carriages, limbers, ammunition chests, and the tools required to service it. This was the artillery

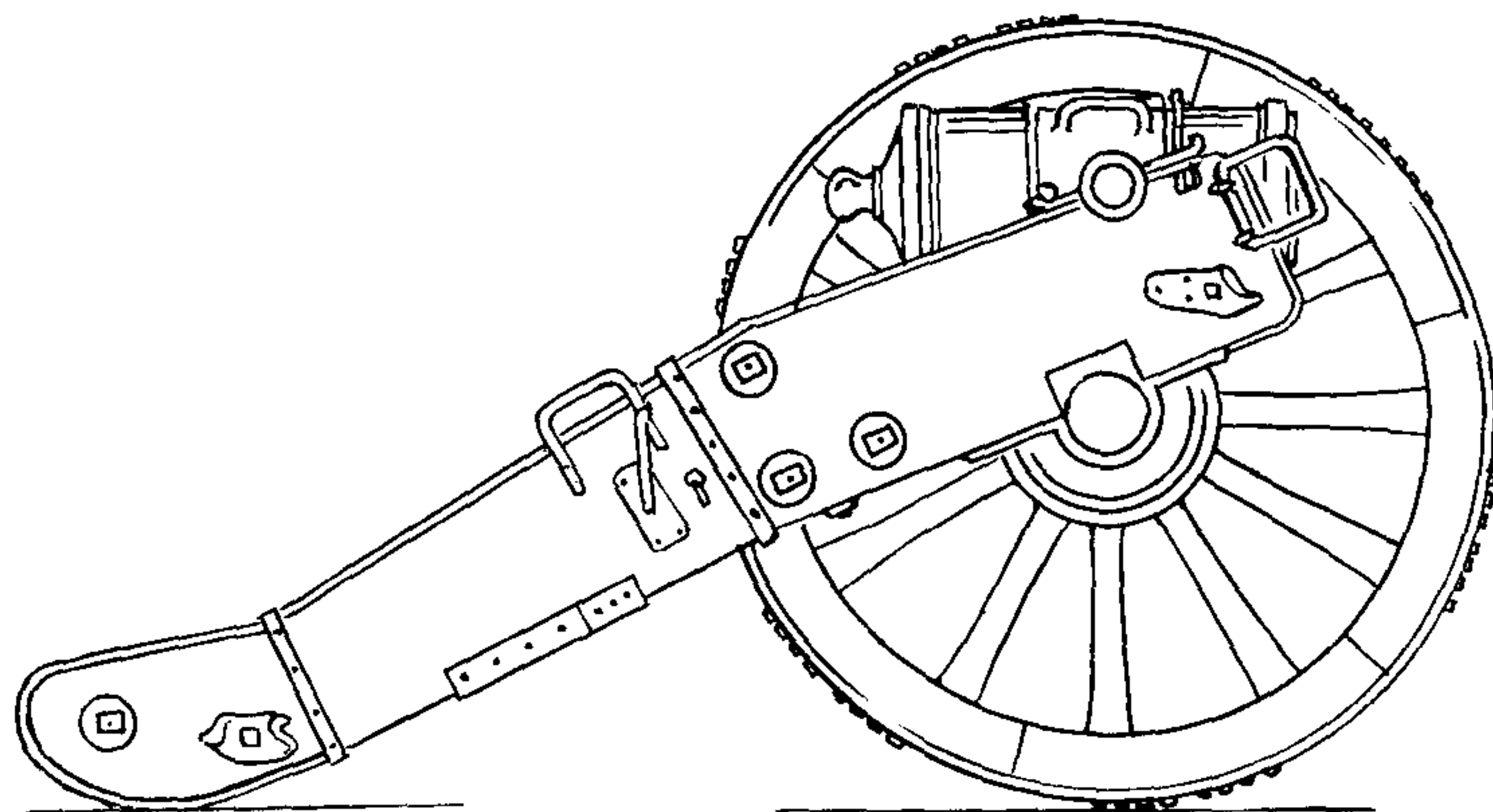


FIG. 3. Gribeauval howitzer.

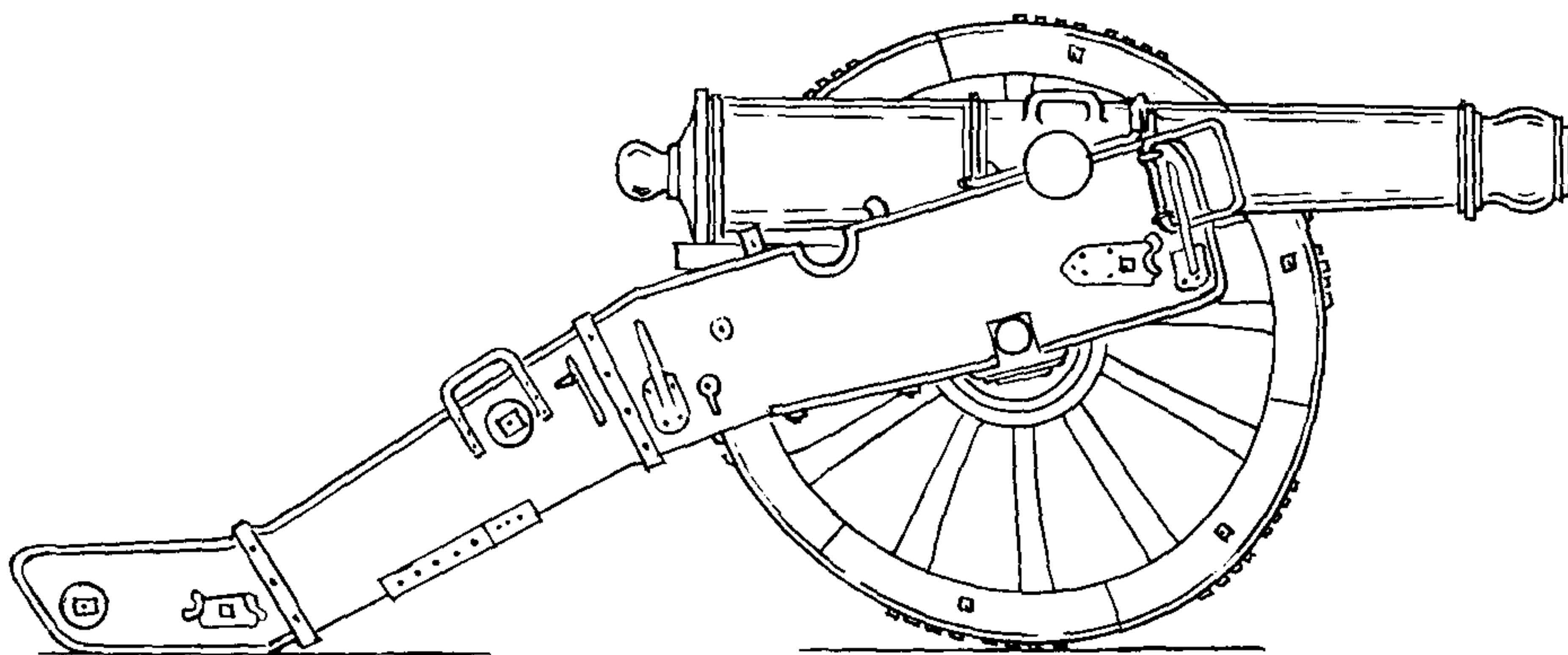


FIG. 4. Gribeauval 12-pounder.

which was to serve the French armies from Valmy to Waterloo. But the great reform was bitterly opposed by a group of artillery officers, led by the younger de Vallière, the 'reds' who opposed the 'blue' proponents of the new system and delayed its introduction until 1776. The Gribeauval system consisted of a range of 4-, 8-, and 12-pounder field guns, together with 8- and 6-inch bore howitzers. It featured standardized carriages with interchangeable parts, iron axles, limbers, and sights. Weight reduction was achieved by making the carriage lighter and narrower and by casting the barrels thinner and shorter, modifications that no longer affected range. Overall the Gribeauval pieces were about half as heavy as their predecessors. The new 12-pounder, for instance, weighed only 1,600 pounds, half as much as the cannon it replaced.

For greater ease in transportation, the Gribeauval carriages featured two positions for the trunnions; the forward position for firing and the rear position, providing better balance, for travel. Mobility was further enhanced by the practice of pair-harnessing the draft horses.¹⁸ The Gribeauval system featured calibrated rearsights and an elevating screw mechanism, two innova-

tions providing greater ease and accuracy in aiming the piece. A solid screw placed under the breech enabled gunners to elevate and lower the muzzle, while the new rearsight, a graduated tangent sight also placed at the breech, could be set to compensate for the drop of the projectile when firing at greater than point-blank range. The tangent sights and the elevating screw have been called the 'most significant improvements in the design of ordnance during the last two hundred years of the smooth-bore era'.¹⁹

Improvements in carriages, barrels, and aiming devices were complemented by improvements in loading and firing the guns, and in the propellant itself. After 1765 the slow-match or port-fire ignition was generally replaced by the quick-match vent tube. Made of tin, reed, or quill, this tube was filled with an explosive mixture, usually mealed powder, and inserted into the vent of the piece. The port-fire was still required to ignite the tube, but this provided a much stronger ignition flash. By the 1780's it was in general use in all European artilleries, except for the increasingly backward Ottoman service. At the same time, loading was made faster by the use of prepacked charges containing the proper weight of powder, usually one-third the weight of the shot, except for the short British 6-pounder which took a charge of only one-fourth the weight of its projectile. A special tool, the vent pricker, was provided to clear the vent and to break open the serge or flannel powder bags.

Finally, there were improvements in the propellant, blackpowder. It consisted of a mixture of saltpetre, charcoal, and sulphur, the exact proportions varying very little from country to country. British powder in 1781 was made out of 75 parts saltpetre, 15 parts charcoal, and 10 parts sulphur; in Prussia the mixture was 75, 13.3, and 11.5 parts respectively. The English product, manufactured in Crown-owned powder mills at Faversham and Ballincolig, was considered the best due to a suggestion made by Richard Watson, a many-sided cleric, who introduced the technique of making charcoal in closed containers; in part it was due to the superior quality of saltpetre imported from India.

Next to money perhaps the most critical commodity in warfare, saltpetre or potassium nitrate, was in short supply. Formed by the decomposition of organic materials, it flourished best in tropical climates. Continental governments searched for it in stables and cellars, and by the mid-eighteenth century artificial production methods were established. As early as 1748 Prussia and Sweden established *nitrières*, walled enclosures operating like compost pits, and in 1783 the French government offered a prize for the industrial manufacture of this vital material. The final process was invented by Nicolas Leblanc who, sometime between 1791 and 1794, set in operation a factory at St Denis near Paris.

All these technical developments required even better-educated gunners, and in the eighteenth century, though no longer a guild, artillerymen continued to display a distinctive *esprit de corps*, a special pride in belonging to a 'scientific corps'. Unlike the bulk of the soldiers who were drilled to follow orders, even the enlisted gunner had to have at least some rudimentary technical training. In the advanced artillery schools established in Austria and

France, officers and men shared classes and instructions and on the eve of the French Revolution the artillery was the most democratic branch in the armies.

The impact of technical innovations on the art of war

Important as these various improvements were, it has to be conceded that the period from the early eighteenth century to the middle of the nineteenth century showed a remarkable stability in military technology. The tools of land warfare in the most important branch, infantry, remained essentially unchanged, and cavalry weapons remained equally stable. As for artillery the substantial progress in material loading, and aiming, created new tactical possibilities for the more mobile guns. Now they could keep pace with the changing tactical requirements of a battle and be deployed at the decisive point, where outranging musketry, they could produce a very substantial volume of fire. Even so, as a rule this was insufficient to challenge the supremacy of infantry. There now were three major combatant arms, but infantry remained the queen of battle.

This is not to say that the new artillery did not play a considerable role in the French Revolutionary and Napoleonic Wars. But the decisive changes cannot be attributed to technical causes, weapons, formations, or tactics. They can be found in political and social factors that changed the nature of war and of armies and the intellectual premises of their employment.

During the eighteenth century Europe's military potential had increased greatly. There were more men, more food, more metals, and during the wars between 1792 and 1815, governments exercising far greater power than absolutist monarchs, increasingly exploited this potential. Intellectuals like Mably, Voltaire, and Rousseau had attacked the system of limited war and its caste-ridden armies as contrary to Nature, the Rights of Man, and Reason. They advocated a 'natural army', often envisaged as a popular militia that would disband at the end of hostilities. But they failed to foresee that these armies would make wars more bloody and intense than the limited warfare they ridiculed, and that these armies would become a 'nation of the camps', and elevate their own leader, a ruler more powerful and more absolute than the king they opposed.

The pre-Revolutionary crisis of the French army

In the last 30 years of the *ancien régime* some of the ideas advocated by the military reformers actually were introduced to the French by a series of reformist war ministers, Choiseul (1761–70), Saint Germain (1775–7), and Puysegur (1788–9). The list of changes was impressive and included a reduction in the proprietary rights of the colonels, improvement in the soldier's pay, and better housing by the construction of barracks. Military schools and medical facilities were improved. Armament was modernized and the supply system slightly modified.

Many of the reforms were put in their final form by a War Council, sitting

in 1787–8, with Guibert as its recording secretary. The Council reduced the enormously swollen commissioned ranks, some 36,000 officers of whom only 13,000 at most were actually on duty (though all received pay), to 9,578 officers with the regiments and another 2,500 either on detached service or retired. It introduced a complete divisional reorganization. The country was divided into 21 divisional districts, corresponding to the number of permanent divisions. It revised regulations and drill manuals, equalized regimental establishments and passed on the final text of the 1791 regulations. All in all, the army was one of the best organized and trained forces of the *ancien régime*.

And yet all was not well. Below the surface of the army, perhaps reflecting the condition of French society as a whole, ran a deep fault that already had damaged its cohesion. As one historian put it: 'On one side of the line were the *bourgeoisie*, and the common people with the non-commissioned officers and the men of the army, on the other side were the King, the nobles, and the officers.'²⁰ In fact, this oversimplified matters. Within the officer corps an aristocratic reaction challenged the rights of officers who had been promoted from the ranks and those who came from recently ennobled families. In 1781 the old nobility, the *noblesse de race*, managed to obtain a royal edict requiring that in the future officer candidates had to furnish proof of at least four generations of noble ancestors. This exclusionary decree alienated the middle-class officers who had bought commissions and dashed the hopes for advancement of deserving non-commissioned officers, among whom were men destined to rise high in later years – Quartermaster Sergeant Bernadotte, Company Sergeant Major Lefebvre, Murat, Ney, and many others.

In addition there was also a deep rift within the old nobility itself. The court nobles who held most of the higher posts, looked down on the equally ancient, but impoverished, country nobles who filled the regimental posts, especially in the infantry. Under the *ancien régime* it would have been almost as difficult for Napoleon to achieve high rank as a non-noble. All nobles, court or country, started their careers at the lowest rank. But though a sub-lieutenancy was free, higher rank had to be bought, and while the country noble languished in low rank, at most hoping to purchase at long last a captaincy from some elderly incumbent, favour and wealth jumped the court nobles ahead. Some became colonels before they were 20, though they spent much time at court and little with their regiment. At that, these court nobles were by no means devoted to the Crown. In 1788, when troops were sent to put down an aristocratic rebellion against a new and more equitable tax scheme that would have deprived the nobles of substantial benefits, their colonels refused to obey. Powerless to enforce his will, the King had to give way. To procure authorization for new taxes, he now summoned the Estates General to meet the following year.

But the example of high-ranking officers refusing to carry out orders had not been lost on the men. The French army, in contrast with many other contemporary forces, was mainly recruited from native volunteers. About 18,000 new recruits were enrolled annually, almost one-third of them from Paris. These men were by no means isolated from the political currents of the

day, and the example of their officers as well as outside agitation eroded their discipline and loyalty and the Revolution turned them into activists almost overnight. The French royal army was the Revolution's first victim.

By that time there was widespread unrest throughout the whole of western and even parts of eastern Europe. Poland simmered with discontent; a popular revolt against the Dutch prince had been put down by Prussian intervention in 1787; a similar revolt in the Austrian Netherlands, however, succeeded. Hungary was restive; the Gordon riots disrupted life in London, there were disturbances in Ireland, discontent in Spain and Italy. But all these disturbances once they assumed proportions threatening the interests of a major power, could be quelled by military intervention such as Prussia carried out in Holland in 1787. But if a major upheaval was to occur in France, despite its internal divisions Europe's strongest power, any intervention would plunge the continent into turmoil. And this is what happened in 1792.

NOTES

1. J.L.A. Colin, *The Transformations of War*, trs. L.H.R. Pope-Hennessy, H. Rees, London, 1912, 206.
2. Cited in G. Ritter, *The Sword and the Scepter*, trs. H. Norden, University of Miami Press, Coral Gables, 1969, 41-2.
3. J. Morvan, *Le Soldat Impérial*, Plon, Paris, 1904, vol. I, 364-5.
4. L. Kennett, *The French Armies in the Seven Years' War*, Duke University Press, Durham, N.C., 1967, 119.
5. Cited in P. Paret, *Yorck and the Era of Prussian Reform*, Princeton University Press, 1966, 14.
6. C. Duffy, *The Army of Frederick the Great*, Hippocrene Books, New York, 1974, 202-3.
7. G.E. Rothenberg, *The Military Border in Croatia, 1740-1881*, University of Chicago Press, 1966, 18-20.
8. Cited in *ibid.*, 94-5.
9. M. Glover, *Peninsular Preparation*, Cambridge University Press, 1963, 117-21.
10. P. Longworth, *The Arts of Victory*, Holt, Rinehart & Winston, New York, 1965, 218-20.
11. Discussion and excerpts in S. Wilkinson, *The French Army before Napoleon*, Oxford University Press, 1915, 54-83.
12. D. Chandler, *The Campaigns of Napoleon*, Macmillan, New York, 1966, 31.
13. In Wilkinson, *op cit.*, 80-1.
14. R.R. Palmer, 'Frederick the Great, Guibert, Bülow: From Dynastic to National War', in E.M. Earle, ed., *Makers of Modern Strategy*, Princeton University Press, 1948, 64-7.
15. M. Lauerma, *L'Artillerie de Campagne Française pendant les Guerres de la Révolution*, Suomalainen Tiedekatemia, Helsinki, 1956, 10-11, 14-18.
16. A. Dolleczek, *Geschichte der österreichischen Artillerie*, Selbstverlag, Vienna, 1887, 290-2.
17. Duffy, *op cit.*, 112-14, 118-22.
18. Lauerma, *op cit.*, 14-18, 144.
19. B.P. Hughes, *Firepower Weapons Effectiveness on the Battlefield, 1630-1850*, Charles Scribner's Sons, New York, 1974, 18.
20. Wilkinson, *op cit.*, 98.

The French Revolutionary and Napoleonic Wars : from Valmy to Waterloo

Introducing the budget in February 1792, Prime Minister Pitt assured the House of Commons that 'there never was a time in the history of this country, when, from the situation in Europe, we might more reasonably expect fifteen years of peace than we may at the present moment'. But that was not to be. There would be no 'peace in our time'. Instead, within a month, there began a series of conflicts which lasted, with few interruptions, until 1815.

For 23 long years the European powers fought against the armies of the French Revolution and Napoleon. As these armies gained ascendancy, they employed the organizational, tactical, and strategic techniques developed during the previous decades. To counter them, their opponents had to adopt many, if not all of the new ways, and Europe passed out of the days of the small professional dynastic armies and entered those of national conscription and big battalions. These developments are discussed in some detail in the later chapters; this chapter is designed to provide no more than a historical and chronological background and a condensed analysis of the major campaigns from Valmy to Waterloo.

The coming of war : 1789-92

At the outset, news of the Revolution in France had not caused undue concern in the various European capitals; rather the contrary. France, with its 25 million inhabitants, was by far the strongest continental power and if it was preoccupied with internal troubles, the balance of power and a degree of general tranquility in Europe seemed assured. This, of course, was the basis for Pitt's strange prophecy.

By 1792, however, earlier evaluations of the Revolution had been replaced by apprehension in many quarters. The Estates General summoned in 1789 by Louis XVI to raise new taxes, had transformed themselves in a Constituent Assembly which, backed by a huge armed citizen militia, the National Guard, had forced a reluctant monarch to accept the Constitution of 1791. This document drastically reduced royal power and a ministry, responsible to a Legislative Assembly, now ruled in Paris. Disgusted at this turn of events

the King himself had tried to flee in June 1791, but was caught at Varennes and brought back, in plain fact a prisoner of the revolutionaries. Many Royalists, including a considerable number of aristocratic officers, left the country at this time.

During the winter of 1791–2 relations between France and the European courts deteriorated. In particular there was bad feeling between Austria and France. On 7 February 1792 Austria signed a defensive alliance with Prussia. Three weeks later Emperor Leopold II died in Vienna and was replaced by the more bellicose Francis II. Even so, neither Austria nor Prussia really wanted war; they were more concerned with gaining new territories in Poland. However, the decision for war came from Paris. In the Legislative Assembly the powerful Girondins, basically Republican, favoured war in order to consolidate the Revolution, while the remaining Royalists hoped that an external conflict would strengthen the constitutional monarchy. On 20 April 1792, General Dumouriez, an opportunist soldier and then Foreign Minister, and Louis XVI, by that time king in name only, called on the Assembly for a declaration of war. The same evening the Assembly, claiming that Austria was preparing for armed intervention, declared war against the 'King of Hungary and Bohemia', and by implication also on Prussia. This act, so the Assembly declared, was the 'just defence of a free people against the unjust aggression of a King'.

The first campaigns : 1792–3

At this point France was totally unprepared for active military operations. Political conditions were chaotic, the finances in ruin, and the royal army deteriorated. During the early years of the Revolution the doctrines of '*liberté, égalité, fraternité*', combined with political agitation had eroded discipline. Radical political cells challenged the officers' authority in many units; there were local mutinies, and a great number of desertions. The gaps left by the resignation or emigration of officers had not been filled, and there was mutual suspicion between the officers and the men throughout the army. To strengthen the disorganized and still distrusted regulars, the Assembly had called for 100,000 volunteers from the National Guard. These were to serve for one campaign only, elect their own officers, and receive better pay than the regulars. Even so, the response had not been satisfactory and only about one-third of the required number had come forward; they were poorly disciplined and unreliable.¹

No wonder then that the first campaign began badly. The three French armies hastily assembled on the eastern frontier, designated respectively as the Army of the North, the Centre, and the Rhine, numbered about 130,000 in all. Dumouriez, who now came forward as the chief strategic planner, pressed for the immediate invasion of Belgium, then the Austrian Netherlands, where the French expected to be welcomed as liberators. But when on 28 April 1792 elements of the French armies advanced into Belgium, they experienced their first encounter with the enemy. Crying 'treason' they

panicked, set upon their officers, and murdered one divisional commander. Further advances brought similar results and by the end of June the invasion of Belgium had collapsed. Austrian troops, in turn, advanced into Flanders to besiege Lille.

News of these setbacks, combined with economic distress, radical agitation, and a threatening manifesto by the Duke of Brunswick, commander of the Austro-Prussian army then assembling on the frontier, triggered a savage radical uprising in Paris. The King's remaining Swiss Guards, some 600 in all, were massacred, the monarchy suspended, and many Royalists arrested. At this, the Marquis de Lafayette, known for his services in the American Revolution and then commanding in Flanders, attempted a *coup d'état*, and, when it failed, crossed over to the Austrians. A few days later Marshal Montesquiou, commanding the southern sector, followed suit. Dumouriez now assumed command of the Army of the North, while Kellermann, a crusty old regular, retained command of the Army of the Centre. The bulk of Dumouriez's troops consisted of volunteers; Kellermann's units were largely regular. In Paris, meanwhile, the Assembly proclaimed the nation in danger, called up more volunteers, and mobilized the National Guards.

But the Austrians and Prussians, joined by the Sardinians in the south, were quite as unprepared for serious operations as the French. The Austrian army had not yet entirely recovered from its last war against the Ottoman Empire (1788-91), there was trouble brewing in Hungary, and large numbers of troops were retained in the eastern provinces. Prussia too was preoccupied with preparations to invade Poland and could employ only a part of her total forces. By mid-summer the Duke of Brunswick had collected some 130,000 men, about half Prussian, one-third Austrian, and the rest Hessian and a rag-tag contingent of French Royalists. A strategist of the old school, Brunswick moved west from his base at Coblenz on the Rhine in slow stages, about five miles a day. On 19 August 1792 he crossed the French frontier. Longwy and Verdun, two border fortresses, capitulated as the Duke continued his methodical advance on Paris. But even at this slow rate, his army dwindled. Garrisons were left behind to safeguard the line of communications, the weather turned bad, and scores of men died daily from dysentery. By mid-September his army was reduced to 50,000 effectives and his resolution was fading.

On 20 September, finally, with about 40,000 men, Brunswick came up against the combined armies of Dumouriez and Kellermann, standing on the defensive in a well-chosen position near Valmy. After an indecisive artillery duel, and surprised at the steadiness revealed by Kellermann's troops, the Duke halted the engagement. Ten days later, without firing another shot, he began to withdraw slowly back to Germany. His decision was quite sound. Even if victorious, his army, enfeebled by sickness and its artillery and supply train mired down by the incessant rains, could no longer hope to attain its objective. Still, his decision, though tactically correct, had enormous political consequences. On the day of Valmy, a newly elected and more radical assembly, the National Convention met for the first day in Paris. The next

day it decreed the abolition of the monarchy and proclaimed France a Republic.

Campaigns of the First Coalition: 1793–5

At the cost of a few hundred casualties the Revolution had been saved. French morale soared as Republican armies regained the initiative. From Alsace, General Custine seized Mayence, an important bridgehead on the right bank of the Rhine, and went on to take Frankfurt. In the south, French troops conquered Savoy and Nice from Sardinia, and in the north Dumouriez renewed the invasion of Belgium. On 6 November 1792, with 40,000 men, he surprised 14,000 Austrians in their winter quarters at Jemappes, defeated them, and rapidly occupied most of the country. Exultant, the Convention voted on 19 November to extend its 'aid to all peoples who wish to recover their liberty'. The Revolution was challenging the entire European political and social order, and in a further gesture of defiance, it tried and executed Louis XVI in January 1793. Even more, on 1 February the Convention declared war on England and Holland and the next month it announced the annexation of Belgium. All of which brought together the First Coalition, a rather ill-assorted alliance of Austria, Prussia, Sardinia, Naples, Spain, the minor German states, with England, Holland, and Portugal.

Potentially, of course, the Coalition was very strong, but this hardly worried the French who now considered themselves unbeatable. Many volunteer units disbanded while the Convention, split by bitter factional quarrels between the more moderate Girondins and the more radical Jacobins, allowed the supply system to fall to pieces. For a few months the Coalition held the upper hand but by as early a date as February 1793 an Austrian army under the Prince of Coburg, 40,000 strong, defeated Dumouriez in a series of engagements and then routed him on 18 March at Neerwinden. Forced to evacuate Belgium and worried about the personal consequences of his defeat, Dumouriez opened negotiations with Coburg and tried to rally his troops against Paris. The attempt failed and on 5 April he deserted to the enemy, accompanied by some officers and a cavalry regiment.

France now fell into desperate straits. During the winter of 1792–3 the Convention had decreed a forced levy of 300,000 men. This measure, combined with political and religious discontents, provoked Royalist uprisings in Brittany and in the Vendée region at the mouth of the Loire. The Jacobins' seizure of complete control in the Convention in May (executing many of their political enemies in the process), led several large provincial cities in the south into armed resistance. Lyon, Toulouse, and Marseilles were lost. In August, Toulon, the main French naval base on the Mediterranean, drove out the Republican authorities and admitted a British naval squadron. Surrounded by hostile armies, torn by savage civil war, the new France faced an unnerving crisis.

But the First Coalition, fragmented by divergent war aims and mutual suspicions, would not seize its opportunity. In January 1793, Prussian and

Russian troops marched into Poland; if Prussia instead had committed her entire army against France, an allied victory would have been likely. As it was, her military effort in the west was limited, while Austria, still hoping to gain Polish territory, also held back a considerable proportion of her forces – ambitions which kept Russia from joining the Coalition. The British meanwhile were busy adding to their colonial empire, ‘filching sugar islands’, and merely wished to drive the French from the Channel ports. As for the other lesser powers, these counted for little. Throughout the summer of 1793 Allied military operations were few and uncoordinated as the various commanders each pursued his government’s separate schemes. On the French side confusion reigned.

Thus the Allies frittered away most of the late spring and summer and provided time for a government of national defence in Paris to take hold. On the central front the Prussians recaptured Mayence in July and a Spanish army advanced some miles into the Pyrenees. However, not all was success for the Allies; on the crucial northern front Coburg was first delayed by some minor frontier fortresses and then, when the Duke of York appeared with a small British contingent, mostly Hanoverians and Hessian mercenaries, he had orders to capture Dunkirk. He was assisted by a Dutch force under the Prince of Orange and Coburg even gave him an Austrian detachment, but, lacking siege guns, the Duke could do very little. The main Austrian army meanwhile marched south to invest Maubeuge, and together the Allies established a thin cordon stretching through Flanders, but without strength at any point.

In Paris the Convention had established a strong executive body, the Committee of Public Safety, in April. This Committee, soon controlled by the fanatic Robespierre, instituted a dictatorship, the ‘Terror’, enforcing national unity and organization.

Claiming at least 20,000 lives, the Terror saved the Revolution. Its military affairs were handled by Lazare Carnot, a captain of engineers, a superb administrator, the famed ‘organizer of victory’. Until Napoleon seized power, eventually driving the austere Republican into exile, Carnot directed military strategy, training, procurement and, when the recruitment of troops lagged, prevailed on the Convention to decree the *levée en masse* of 23 August 1793, calling to arms all unmarried men between 18 and 25 years of age.² Although in practice execution of the decree fell far short of its proclaimed principles of universal conscription, it provided Carnot, at least potentially, with numerical superiority over the small professional armies of his adversaries. By September he had concentrated 100,000 men in Flanders; by the end of the year there were over 500,000 men in the French field armies alone. To supervise their enlistment, training, and operations, the Committee and the Convention sent special ‘deputies on mission’, the forerunners of the Russian military commissars, to each army and each of the French departments.

Although France clearly was becoming more powerful, the Allies still would not make a concerted effort. Quite the contrary, Prussia, angry about Habsburg machinations in Poland, scaled down her operations. By this time,

except for the Vendée and Toulon, Republican authority was restored throughout France. Now they were prepared to push the remaining allied forces from the French territory in the north-east. Between 6 and 8 September 1793 General Houchard with the Army of the North defeated a poorly handled British–Dutch–Austrian force at Hondshoote and lifted the siege of Dunkirk. A week later, however, he suffered a setback at Courtrai, and having run afoul of the Deputies, was accused of treason, speedily arrested, tried and executed. The Terror demanded victories; failure was inexcusable and punished. That year 17 generals suffered execution and 67 more went to the scaffold in 1794.

Houchard was succeeded by Jourdan who managed to gain an important victory. The allies, and for that matter the French still used the old cordon strategy of the eighteenth century, that is they distributed their troops in a thin line along the Franco-Belgian frontier, with neither side concentrating strength at a critical point. Despite protests that he was leaving France open to invasion, Carnot ordered Jourdan to collect units from the frontier fortresses and concentrate them south of Maubeuge. In this fashion Jourdan assembled a two-to-one tactical superiority at Wattignies and on 16–17 October gained a major victory that relieved Maubeuge. Further south, in the Alsace, an Austrian offensive under Wurmser had breached the defences of the Wissembourg lines. But new and energetic generals, Pichegru commanding the Army of the Moselle and Hoche that of the Rhine, drove Wurmser back across the river in late December. Also in that month, after a bitter siege that lasted for several months, Republican troops recaptured Toulon. During the operations a young artillery officer, Captain Napoleon Bonaparte, had repeatedly distinguished himself. Rapidly promoted to Major and Lieutenant-Colonel, he was rewarded after the fall of Toulon with the temporary rank of Brigadier-General.³

In this fashion France had surmounted the crisis of 1793. It had been saved by the Terror and by its new armies, poorly equipped, often half-starved, and only indifferently armed. But this was no mere rabble in arms. The senior commanders, often non-commissioned or junior officers of the old royal army, were resourceful and active and the Deputies on mission, though many were bloodthirsty and unjust, indoctrinated the troops with a ‘Republican spirit’, new morale, and determination to fight.

By late 1793 the new armies had improvised tactics emphasizing skirmishing, the use of terrain, and tactical mobility. Lacking cumbersome supply trains, the French lived off the land, bivouacked in the open, and so were capable of more rapid movement. Combining the striking power of mass and mobility, and with human life cheap and heavy casualties easily replaced by conscription, they obeyed Carnot’s orders to ‘act offensively and in mass . . . and to pursue the enemy until he is utterly destroyed’.

The campaigns of 1794

The capabilities of the French Republican armies further improved when

early in 1794 the so-called *amalgame* combined the volunteer and conscript battalions with the remaining veterans of the old army into new regiments, now styled 'demi-brigades'. Several demi-brigades, together with some artillery and cavalry, formed a division and several divisions, the number varied, were combined into field armies. In 1794 there were 11 field armies as well as an Army of the Interior. The three largest field armies were deployed in the east. On paper, at least, the Army of the North numbered 245,822, that of the Moselle 102,323, and that of the Rhine 98,930. The remaining armies, of the Alps, Ardennes, Italy, Pyrenees, and the Coasts, varied between 60,000 to 22,000 men.⁴ Not all of this vast host was effective but the balance in manpower now clearly favoured the French. When strategic or political considerations demanded, new armies were formed. Later that year, for instance, another large force, the famous Army of the Sambre and Meuse, was constituted from units of the Armies of the North, the Ardennes, and the Moselle.

The commanders and the military systems of the First Coalition were hard pressed to deal with the new style of warfare. In 1794 the full power of the French armies made itself felt in a series of offensives that ended the First Coalition. In the north Carnot had prepared a two-pronged attack. Pichegru with the Army of the North, now rated at 160,000, was to make the main effort in the Belgian and Dutch coastal plain, while the army of the Sambre and Meuse, some 60,000 strong, was to press towards Liège. On 18 May 1794 Pichegru defeated an inferior Austro-British force at Tourcoing, suffered a check on 22 May at Tournai, but persisted in the offensive and took Ypres on 19 June. Jourdan, meanwhile, had advanced and besieged Charleroi and on 25 June the garrison capitulated. The next day, Coburg, rather belatedly counter-attacked but failed to concentrate at the decisive point and was defeated by Jourdan at Fleurus on 26 June 1794. Although the French suffered double the number of losses than the Allies Fleurus was a turning point. It marked the end of the threat from Belgium. In July, the Allies evacuated Belgium before the armies of Pichegru and Jourdan.

The end of the emergency brought a political change in Paris. Robespierre and his followers had grown increasingly despotic and became dangerous to all who displeased them and on 27 July the opposition turned on him. He was overthrown and speedily executed. Though staunch Jacobins, the new rulers were forced to relax the Terror. The Convention continued until October 1795 when it replaced itself by a new government, the Directory.

Turmoil in Paris did not halt the march of the French armies. In October, Moreau, commanding the Army of the Moselle, forced the Austrians and Prussians to evacuate the entire left bank of the Rhine, while Pichegru completed the conquest of Holland. Great Dutch fortresses fell with surprising ease, and during the bitter winter of 1794-5 a cavalry detachment managed to capture the Dutch fleet, immobilized in the ice off Texel. Many Dutch cities welcomed the French with genuine enthusiasm, while the Austrians and Germans withdrew to the East. The small British army, sacrificing its foreign units in rearguard actions, retreated across north-eastern Holland into Germany, its discipline and cohesion almost totally collapsed. In April

1795, the Royal Navy embarked 'the officers, their carriages, and a large train', but most of the troops were lost'.⁵ Although the Duke of York had achieved much with totally inadequate resources he was widely blamed for the fiasco of the British expeditionary force.

But by the time the British sailed away, the Coalition already had disintegrated. On 5 April 1795, Prussia, tired of the war, signed the Treaty of Basle with France. The agreement ceded all Prussian territory on the left bank of the Rhine, provided for a neutral zone in Germany north of the Main River, and promised Prussia future compensations, presumably at Austrian expense. In July, Spain too made peace, as did most of the minor German states. Holland was proclaimed the Batavian Republic, a French satellite state, and only England, Austria, and Sardinia were left in the war.

The campaign of 1795

Because of renewed internal troubles, France was unable to exploit the disintegration of the Alliance. The great effort of the past year had left her exhausted; the government after the purge of Robespierre and his followers was weak and corrupt and the new constitution creating the Directory, taking effect in October, was detested by Royalists and Jacobins alike. There had been a military victory, but the country once again was divided. The poor, who had shed most of the blood, resented the corruption and luxury displayed by the rich and by members of the government, and as the Terror relaxed its hold, there were schemes both on the Right and on the Left to seize power. Revolt flared up again in the Vendée and in Brittany, supported, albeit half-heartedly, by British gold and British armed royalist *émigré* troops. It took six months of hard fighting to destroy the rebels. On 21 July 1795 General Hoche's Army of the West destroyed the Royalist forces at Quiberon Bay, but even this did not settle the issue for good. The problem of the Vendée was only settled by Napoleon, and even then there were always sporadic resistance activities there.

By far the most serious challenge to the Directory came in Paris. In early October it was facing an aroused populace, potentially backed by some 50,000 armed National Guards now largely sympathetic to the Royalists. Barras, one of the Directors, hastily assembled all available general officers in the capital, including General Bonaparte, as he now styled himself, only recently released from prison because of his suspected Jacobin connections. Napoleon realized at once that artillery would be required to support the 7,000 odd soldiers defending the government. Murat, then a cavalry major, managed to get hold of some guns and when the insurgents attacked, Bonaparte dispersed them with the legendary 'whiff of grape shot' (actually canister). A grateful Directory thanked him by an immediate promotion to General of Division and the promise of command of the Army of Italy during the operations planned for 1796.

Meanwhile corruption and treason had also appeared in the field armies in Germany and this accounted for the poor results achieved in 1795. Here,

although fighting single-handedly, the Austrians managed to repulse both the Army of the Sambre and Meuse under Jourdan and the Rhine and Moselle under Pichegru. After initial successes in September, both armies were repulsed and forced back across the Rhine. The defeat has been blamed on Pichegru, a man of expensive tastes and high ambitions, who accepted money from a secret British agent, negotiated with the enemy for the restoration of the Bourbons, and generally did his best to ensure failure of the French operations. Although his activities should have aroused suspicion he retained command of his army until March 1796, when he retired voluntarily, and, even more curious, was well received in Paris. General Moreau then assumed command of the Rhine and Moselle Army.⁶

The campaigns in Germany and Italy : 1796–7

The operations planned by Carnot and his embryonic general staff, the Topographical Bureau, for 1796 reflected new military realities. With the French army short of all manner of supplies, the plans aimed at forcing France's remaining enemies to come to terms. Schemes for rasing Europe and for the overthrow of the entire established order had been quietly shelved. The plan envisaged two distinct, but mutually supporting theatres of operations. French armies were to take the offensive both in Germany and on the long stalled Italian front, thus preventing the Austrians from reinforcing the one from the other. The objective was to bring Austria to accept the new frontiers of France. As for England, Hoche's Army of the West was to invade Ireland as soon as the French navy could provide the necessary transport. For her part, Austria had given up hope of recovering Belgium or of overthrowing the government in Paris. It did plan for a combined Austro-Sardinian offensive to clear the French from their foothold in the Italian Alps. Originally Vienna intended to stand on the defensive in the north, but having received its share in the third Partition of Poland, and under pressure from Archduke Charles, the Emperor's younger brother who had assumed command in Germany in December 1795, substantial reinforcements were dispatched and Charles was authorized to act as he considered advisable.

French planning obviously had given priority to the German theatre and the two armies employed there, Jourdan's Sambre and Meuse with 78,000 and Moreau's Rhine and Moselle with 79,500, were far superior in strength to the Army of Italy, which to be sure, had a paper strength of over 100,000, but in fact had less than half that number of effectives, strung out along the southern slope of the Maritime Alps from Nice to the vicinity of Genoa. And while all French armies then were poorly equipped, the Army of Italy was perhaps in the worst shape, sullen, starved, with some formations even lacking muskets.

In 1796 things did not go as planned by Carnot in Germany. Archduke Charles, whom Wellington considered the ablest Allied commander, drove Jourdan back across the Rhine in June, and when he returned in August, defeated him again at Amberg on the 24th and routed him on 3 September at Würzburg.⁷ In turn, this left Moreau, who had pushed through Württem-

berg into Bavaria, at the end of a dangerously exposed line of communications. Moreau now was forced to retreat and this ended the threat to Vienna from the Danube valley. But Napoleon had prevailed in Italy and in January 1797, Charles was hastily called to the southern front.

* * *

Napoleon's Italian campaign of 1796-7 was distinguished by brilliant moves that forced superior enemy forces either to surrender or retreat, though lacking sufficient numbers, especially cavalry, Napoleon failed to achieve the total destruction of the opposing armies. But he inflicted substantial casualties, drove the Austrians out of northern Italy, and established his reputation as a great field commander.

The campaign fell into three major stages. In the first he burst from his positions near the coast and, separating the Sardinian and Austrian armies, forced the first to surrender and obliged the second to fall back to the fortresses of Lombardy. During the second phase, Napoleon remained on the strategic defensive. His army, now supplied by a system that combined requisitions with magazines, blockaded a large Austrian force in Mantua, while utilizing its interior position to defeat in turn several Austrian armies approaching to destroy him. In the final phase, after severely mauling the last attempt to relieve Mantua, and after the fortress capitulated, he moved east into Austria. One year to the date that he had taken command his troops were within striking distance of Vienna and Austria hastily signed an armistice and later a peace.

When he assumed command of the Army of Italy on 27 March 1796 it numbered about 45,000 men and 60 pieces of artillery, divided into four widely dispersed divisions and two smaller detachments. Preparatory to taking the offensive he utilized the superior mobility of his troops to regroup, changed the composition of divisions in accordance with their assigned mission, created a small artillery reserve, and formed his horse, about 4,800, into two cavalry divisions. The object, of course, was to constitute an offensive mass against an enemy who was unprepared to withstand a sudden attack in force at any point. The Austrian and Sardinian commanders moved forward to defensive positions blocking the several passes leading from the coast northward into the Po River valley. During ten days in April, Napoleon defeated the Austrians at Montenotte, 11-12 April, and Millesimo, 13-14 April, penetrated the centre of the Allied cordon and on the 22nd routed the Sardinians at Mondovi. An armistice with the Sardinians followed, while the Austrians retreated east into Lombardy. On 10 May, following artillery preparation, Napoleon led a storming column across the Adda bridge at Lodi, a deliberate act to impress his men with his personal bravery. Five days later he entered Milan, capital of Austrian Lombardy. Part of the Austrian armies fell back to cover the Brenner Pass, while the bulk retreated behind the strong fortifications of Mantua which Napoleon invested.

Four times the Austrians tried to raise the siege, but each time Napoleon repulsed the relief force, taking advantage of his interior lines against an enemy who continued to approach with his forces divided. In the first attempt two

Austrian forces tried a converging offensive with two armies; Quasdanovich with 18,000 coming from the North and Wurmser, 36,000, from the north-east. Together these outnumbered the 45,000 French. Abandoning the siege, Napoleon placed himself to prevent a junction of the two enemy forces, succeeded in concentrating first against the one and then against the other, and defeated them in a series of battles at Lonato and Castiglione, 29 July to 5 August 1796. He then returned to invest Mantua. In September the Austrians tried again with similar results, and it was the same in November. This time, however, the French were hard pressed. At Arcola, 15 to 17 November Napoleon with 20,000 men defeated Alvinczy with 24,000 men in a bloody battle in which no less than 14 French general officers were killed. In January 1797 Alvinczy returned with 42,000 men, which Napoleon could parry only with 32,000, having to leave 8,000 to maintain the blockade of Mantua. However, Alvinczy divided his army into three groups. Two smaller groups were sent against Verona and toward Mantua, while the main force, some 28,000 strong encountered Napoleon with about 22,000 at Rivoli, south-east of Verona. The hilly terrain forced Alvinczy to divide his force into several columns which Napoleon attacked as they emerged from the defiles towards the battlefield. Alvinczy suffered a staggering 43 percent losses in killed, wounded and prisoners. The other two forces also were defeated and with all hope for relief gone the 20,000 strong garrison of Mantua capitulated on 3 February.

With his rear secured, Napoleon ordered an all-out advance. Although reinforced, he was still heavily outnumbered by the enemy, but Austrian morale was shattered and even the redoubtable Charles could not rally them. Leaving 40,000 men behind to guard his communications, Napoleon moved forward with 40,000 more. After a four-week march he was deep in Austrian territory and on 18 April, when the heads of the French columns entered Leoben in Styria, only 80 miles from Vienna, the Austrians accepted an armistice and in October there followed a formal treaty, the Peace of Campo Formio. Austria ceded Belgium and Lombardy, agreed to accept French control of the left bank of the Rhine, recognized the establishment of a French satellite state, the Cisalpine Republic in Italy, and in return received Venice and its territories.

The Egyptian expedition : 1798–1801

After Campo Formio, England, except for Portugal, stood alone against France, unable to confront her on land, but maintained her naval blockade and was ever busy to search out and support new allies on the continent. In December 1796, General Hoche with 14,000 troops, escorted by 16 ships of the line, had managed to evade the British blockade and sailed for Ireland. But, disorganized by storms, only a few small detachments were landed in Ireland and these were quickly rounded up. The Directory was willing to listen to Napoleon's proposal to seize Egypt as a base for further operations against England's oriental empire and trade.

In May 1798, Napoleon sailed from Toulon with a carefully equipped force of 35,000, selected from the Army of Italy. Evading the British Mediterranean squadron, he captured Malta, and arrived off Alexandria on 1 July. After seizing the port, the French marched on Cairo. On 21 July, in sight of the Pyramids, they encountered the Mamelukes, a splendid cavalry force, and the actual rulers of Egypt. Their undisciplined, if superb horsemanship, could not prevail against the efficient volleys of the French infantry and guns, drawn up in a tight checkerboard square formation. Scattering the horsemen, the French army entered Cairo the next day. On 1 August, however, Admiral Nelson destroyed the French fleet at Aboukir Bay and Napoleon's army was marooned.

Undaunted, Napoleon now decided on an advance into Syria. Marching with 13,000 men, along the ancient coastal road across the northern Sinai into Palestine he took Jaffa on 7 March, but further up the coast the walls of Acre, defended by units of the Ottoman New Model Army, the *Nizam i Jedid*, assisted by a British landing force, resisted his assault. Although he defeated with ease a Turkish attempt to relieve the fortress, Napoleon lacked heavy siege artillery which had been sent by sea and intercepted by the British navy. On 20 May he lifted the siege and, making a considerable effort to evacuate his wounded and sick, returned to Egypt in mid-June. It was a defeat, in part compensated by his crushing victory over another Turkish army at Aboukir on 5 January 1799.

By this time Napoleon realized that without control of the seas he could not accomplish his objective. Receiving information that the Directory, facing the Second Coalition, was tottering, he decided to abandon his army. On 22 August 1799 he relinquished command to Kléber and managed to return to France, landing on 8 October. Despite growing unrest and British–Turkish pressure, Kléber managed to beat back a number of attacks, but was assassinated in June 1800. On 8 March 1801, the British under Abercromby executed a spectacular assault landing at Aboukir Bay, defeated the French army under Menou, and with Turkish assistance went on to take Alexandria and Cairo. At the end of their strength, the French still managed to negotiate good terms. Menou capitulated, but his army, almost 30,000 strong, was given free passage back to France in August 1801. The ill-starred Egyptian expedition was over.⁸

The war against the Second Coalition, 1798–1802

Shortly after Napoleon's departure for Egypt in the summer of 1797, the British had put together a new Coalition. This time it included Great Britain, Russia, Austria, the Ottoman Empire, Portugal, Naples, and the Papal states. However, except for Austria and Russia, the new Coalition lacked substantial forces, but the corrupt and improvident Directory had allowed the French army also to sink to a wretched level. Austria declared war on 12 March 1799. Jourdan at once crossed the Rhine and advanced through the Black Forest, while in Italy, Masséna moved north towards the Tyrol. But Jourdan's inferior forces were speedily defeated by Charles on 21 March at Ostrach and

