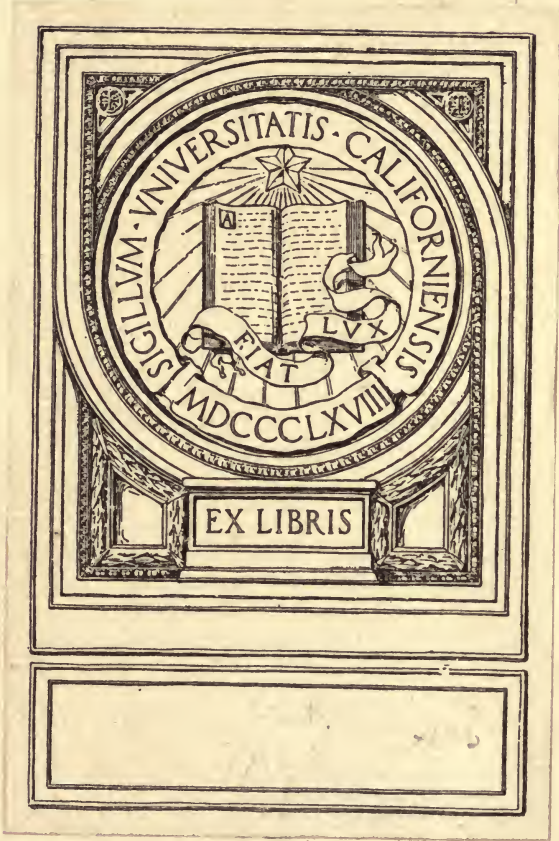


FAMOUS  
LAND FIGHTS  
A. HILLIARD ATTERIDGE



1583

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THE HISTORY OF THE

AMERICAN PEOPLE

FROM 1763 TO 1876

# FAMOUS LAND FIGHTS

BY

JOHN B. HENNING

Author of "The American People"

BY THE SAME AUTHOR

TOWARDS KHARTOUM

NAPOLEON'S BROTHERS

JOACHIM MURAT

MICHEL NEY

UNIFORM WITH THIS VOLUME

FAMOUS SEA FIGHTS. By J. R. HALE

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NORMAN HORSEMEN  
 From the Bayeux Tapestry



# FAMOUS LAND FIGHTS

BY

A. HILLIARD ATTERIDGE

WITH EIGHT ILLUSTRATIONS AND TWENTY MAPS



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## PREFACE

**T**HIS book is intended to be a companion volume to Mr. John Richard Hale's popular account of the evolution of naval warfare (*Famous Sea Fights, from Salamis to Tsu-shima*, Methuen & Co., Ltd.). It is an attempt to trace in the same way the development of land fighting from the days of early tribal warfare to the great conflicts of "Nations in Arms" in our own time. The evolution of weapons and tactics is described in bold outline, typical battles being dealt with in fuller detail in each of the great periods of history. •

I am quite aware that some of my conclusions as to various points are still matters of debate among experts. To give one instance, I am familiar with Professor Delbruck's theory, according to which the armies engaged in many famous battles of antiquity and of the early medieval period were mustered in much smaller force than that assigned to them by the usually accepted tradition of history. It will be seen that I adopt this view only to a very partial extent. But in a popular work of this kind one cannot discuss rival theories and state at length the arguments for and against them.

Again, I have not considered it necessary to encumber the pages with a mass of notes and references. Experts who do me the honour to read the book will recognize the sources of most of my statements. But I must specially acknowledge my obligations in the early medieval period to Professor Oman's great work on medieval warfare—a fragment of a greater work which all students of military history hope he will some day complete.

A. H. A.

LONDON, *June 18, 1914*

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# FAMOUS LAND FIGHTS

## CHAPTER I

### PRIMITIVE WEAPONS AND OLD-WORLD WARS

**I** PURPOSE to tell something of the progress of land warfare from the early days of tribal conflicts to the battles of armed nations in our own time. To make the story more interesting and more easily intelligible, I shall select for fuller treatment a number of typical battles chosen not for their influence on the current of human affairs, but because they supply characteristic examples of the varying methods of fighting. My object is to trace in broad outline the development, not so much of military policy and strategy, as of weapons and tactics, and to do this by focussing the reader's attention on these characteristic incidents.

The book does not pretend to be a complete history of warfare on land. It is a sketch of its progress, outlined in popular and untechnical language, and illustrated by a series of episodes in that history, intended to show what the fighting on the battlefield was like at various periods.

These varying aspects of war in the past depended largely on the gradual development of the weapons used in armed conflict; for tactics are chiefly influenced by

armaments. The story of the gradual evolution of the scientifically designed weapons of to-day from those of the wild hunters who fought the mammoth and the cave bear is a not unimportant chapter in the history of human progress. It is a strange thing that it should be a mark of high civilization to be in possession of enormous supplies of these scientifically designed and machine-made tools for killing men. For, to put it quite plainly and crudely, this is what modern weapons are. Our good friends the Japanese were regarded as only at best a semi-civilized nation—in fact a very backward people—when, little more than half a century ago, their troops paraded with spears and bows and arrows, and wore grotesque masks and padded armour. Now that they dress in khaki and carry repeating rifles their place among highly cultured nations is beyond dispute.

This is why the evolution of weapons from mere primitive sticks and stones up to Maxim guns and quick-firing cannon is one aspect of the history of civilization.

In the evolution of armaments the stick is the primitive ancestor of war-club, mace and battle-axe. The sword is its highly civilized cousin. Along another line of evolution the stick is the starting-point of spear, lance and bayonet. The stone is the crude early forerunner of bullet and shrapnel shell.

There are still in this twentieth century some benighted savage tribes who have not got beyond the stick and stone period of this evolution. They have never known the sensation of shooting at an enemy a mile away, and can only fight at close quarters, a business which the average civilized man regards as distinctly disagreeable, whatever he may say about it in poetry and romance. For until the actual stress of battle has worked him up into something of the old fighting mood of the far-away past, the civilized warrior prefers bullets to cold steel, and listens with pleasure and assent to the learned tactician who tells him

battles are to be won with the rifle. The Japanese owe not a little of their fighting value to the fact that they have still some of the older spirit left in them, and a consequent eagerness to get to close quarters as soon as possible.

It was a wonderful invention when some primitive warrior and hunter found out how to make stick and stone work together in one weapon. He took a forked branch, and with strips of raw hide fastened a lump of sharp-edged flint into the cleft, and so made a rude battle-axe. When he first brought it down with a smash on the head of a wild beast or an enemy's skull, the triumph was as great as Armstrong's when he first sent a shot from one of his big belted and grooved cannon boring through an armour plate. The world was moving on.

Another pioneer made a still more wonderful invention for the effective use of a stone as a projectile. As a step forward in the march of civilization the invention of rifled cannon was a comparative trifle. He used the principle of centrifugal force. Not having even the most elementary education he was doubtless too ignorant to give the principle a name. He did not even know what principles were, and never worried himself about a definition of force. But though no theorist, he was an eminently practical man, and he invented the sling—a dangerous weapon to friend as well as foe till the slinger got quite handy with it, but then a winner of battles, for the slinger was as superior to the old-fashioned stone-thrower as the rifleman to the musketeer.

One victory of the sling is famous for ever, and through the ages since it was won it has inspired men to stand up bravely against odds. It was when the Philistine giant with his brazen armour and his spear "heavy as a weaver's beam" came out like a swaggering bully to challenge Israel to find a champion to meet him, and the shepherd boy faced him sling in hand and brought him down with the "smooth stone from the brook" that crashed into his

forehead.<sup>1</sup> The sling is easy to improvise, the stone of convenient size not hard to find, and it held its own among weapons of war for centuries. For all who feel the generous "siding with the weaker side" it is pleasant to read how Xenophon's handful of Greeks in the heart of Asia, beset by thousands of Persian archers, made slings for themselves and kept the enemy at bay with primitive sharp-shooting.

The spear, the javelin, and the arrow are all developed forms of the pointed stick,—the wooden spear till used by some primitive tribes. The head of flint, bronze and iron marked successive stages of progress. The range of the javelin, the thrown spear, was necessarily limited, so the discovery of the bow that could drive the lighter form of the javelin—the arrow—swiftly to a fairly long range was another invention of great importance, developed no doubt in the first instance among hunters who with its help could stalk and bring down the fleetest of deer.

Finally in the armoury of primitive races, but at a late stage and only in the Old World continent, came the sword. It was first made by early bronze workers, a slender leaf-shaped weapon, destined to assume many forms, as more or less importance was attached to the use of point or edge, as the guard for the hand influenced the shape of the hilt, and as the methods of fighting in fashion at various times made the swordsman choose a long blade to keep his enemy at a respectful distance, or a shorter one for self-reliant close combat; or again as heavy blades were used for mere downright hacking, or a lighter and better-balanced weapon was chosen when the swordsman had learned to make his blade serve for both sword and shield.

<sup>1</sup> The sling has been for ages the weapon of the shepherd and the herdsman. When Don Quixote charged the flock of sheep he had to retreat with the stones from the shepherds' slings rattling on his armour. To this day the men who herd the fighting bulls on the Spanish uplands carry slings. The bull is dangerous to them only when he leaves the herd and "goes on his own," and these stray bulls are driven back to their comrades by a shower of light stones deftly slung from a safe distance.

The sword has always been the weapon of the more civilized conquering races. Where the black peoples of Africa use it, they have adopted it from white neighbours. But most of these dark races relied on the spear up to our own times, using lighter spears for throwing and a heavier "stabbing spear" for the hand-to-hand fight. So too none of the native races of the New World discovered the use of the sword. Axe, mace and club were their weapons for close fight, and this is true also of the native Australians and the island peoples of the South Pacific. The sword is the historic weapon of the peoples of Europe and Asia. It has come to be the symbol and embodiment of armed strength; the type of war, the honoured sign of command,—the one weapon that links primitive days with our own and has held its place through the changes of some five thousand years of strife.

There are two great epochs of change in the history of warfare. They divide the grim record into three periods, not by any sharply defined line of demarcation, however, for in each case the change came so gradually that it defies accurate chronology. One can no longer say with satisfied certainty that a German monk, pottering with crucibles and retorts in a rude conventual laboratory, startled first himself and his brethren, and then the world, with the invention of gunpowder, and set men "digging villainous saltpetre out of the bowels of the harmless earth" to the destruction of many a "good tall fellow" and the general dislocation of medieval tactical theories. The mysterious new power was discovered by more than one inventor in various places, and came gradually into use here and there, at first with vague ideas as to its practical application. It seems not unlikely that there was gunpowder in the ingredients of the famous "Greek fire," of the composition of which the secret was kept so long, and to such little real purpose, by the artificers of Byzantine arsenals. Moor and Christian used gunpowder in a blundering inefficient way in warfare in the twelfth century, and then it began to wake the

cannon thunder on fields further north, and to shatter the walls of castles, till then impregnable against all but famine. So the period of modern war began.

Before these sulphurous, smoke-clouded days of gunpowder, there was the long period of medieval and classical warfare ; of which, roughly speaking, we may note as the characteristic feature the importance of defensive armour. In the Middle Ages an "armed man" did not precisely signify one who carried weapons, but a man who wore armour of plate and mail. In the decisive hand-to-hand conflict the completely armed man, trained from early youth to fight when thus protected, and skilful with his weapons, despite the cumbrous weight he carried, was a match for numbers of mere peasants or burghers less skilled with sword and spear and unprotected by a panoply of steel. Hence the importance of the man-at-arms and the prominence in battle stories of individual champions from the days of Homeric heroes down to those of the knights of the Middle Ages.

But another characteristic of this period, distinguishing it from that which preceded it—the period of savage warfare—is the fact that men had learned to fight in a battle order, in close-knit lines and columns that gave to the individuals thus ranked together the advantage of mutual protection and support.

In the primitive period—stretching back into the dim age of the flint arrow and the bronze axe, as in the warfare of the ruder races of later days, the only tactics were those of the hunter, and if large numbers were ever brought into action tactical methods, such as they were, disappeared in the confusion of a fighting mob. With the small forces brought into the field in the brief campaigns of primitive tribal warfare there is little of what can be called strategy, and in the actual conflict the result depends on the prowess and skill at arms of individuals. The art of war consists largely in the devising of ambushes and surprises, in order to give to those who employ such means a temporary



advantage in the first and all-important stage of the attack. A small force relying mainly on the weapons of hand-to-hand conflict has really no flanks or rear. It can meet an attack from whatever direction it comes. There is no line of supplies from which it can be cut off by a skilful manœuvre, no line of battle of such extent that it can be rolled up by throwing a turning force upon one of its extremities. The tactics of the battlefield began when armies became something more than small clan gatherings. Strategy had its origin when these armies became so numerous that they had to organize a system of supplies, a base, and a line of communications.

In the first conflicts of comparatively large forces the armies in the field would be formed of a coalition of clans or tribal gatherings. These would have as their guiding and rallying points the banners of their chiefs. This is why the more primitive an army is the more numerous are its standards. The king or commanding general, the leaders of each subordinate force, the captains of the smallest groups of warriors in the array, each has his flag. The system survived till a late date in the regular armies of modern times, each company of infantry, each troop of horse, having its colours. In the Middle Ages a feudal army showed a forest of banners, the ensigns of peers, barons and knights, and leaders of hired mercenary bodies of men-at-arms, and the flags of cities and even of trade guilds. In the same way in the Dervish armies of our wars in the Soudan every petty emir had his banner. These flags were gathered by the score from every battlefield. They were so common as hardly to be reckoned as trophies. Only the standards of the greater chiefs were so regarded. These armies of Dervish spearmen were the last survivors of the Old World battle hosts, and one could see in them a living picture of what warfare was thousands of years ago, when the chiefs relied for victory on the sudden rush of spears; set their army in battle array by each one rallying his kinsmen and adherents round his banner, and then

drove the attack home by each leader trying to carry his standard as far as possible into the hostile ranks.

At a very early period, however, the discovery was made that there was a better way of fighting than this mobbing of the enemy ; that a mere armed crowd could be neither controlled nor directed once the attack was launched ; and that under such conditions it was impossible to reinforce a threatened point, or stiffen the attack where it met with unexpected resistance. The most a general could do would be to call on this or that leader to bring his banner out of the *mêlée* and plunge into it elsewhere. The first condition for any direction of the battle was some kind of organization.

The army had to be divided into subordinate bodies, that kept permanently together on the march, in camp, and in the fight. And to enable the men who composed these units to move to the appointed place and mutually support each other some kind of drill had to be invented. Archers and slingers could not use their weapons unless they learned at least to keep out of reach of each other's way. For these some kind of loose line, not unlike the modern firing line of the first stages of the fight, was a necessity. With the spearmen a closer array was the simplest and best. Spearmen, shoulder to shoulder, protected each other. As long as they kept this order each need only guard himself from the enemy opposed to him in front. To prevent the line being broken others were placed behind it, and the experience that a line of spearmen with other lines pressing it forward could bear down opposition by its mere weight led to the front being narrowed and the depth of the array increased, and produced the column.

Marching in fours was introduced into European armies at a comparatively recent date. It is for us quite a modern invention. It was really a revival. For toy or model soldiers found in an Egyptian tomb of thirty centuries ago are fixed on a base so that they stand in what we would

now call a column of fours. But this would be a marching formation. The fighting column would have a broader front. We shall see its most important developments in early history in the exploits of the Greek phalanx, an attacking column of pikemen.

So much having been said of the beginnings of infantry warfare, a few words may be added as to another and more picturesque arm that at certain periods of history was the chief fighting force on the battlefield. In early days the mounted warrior was unknown. It is hard for us to realize that there were times when the horse was a wild animal trapped or stalked and shot for the sake of its meat and its hide. Then came the time when some rash innovator tamed, more or less completely, the hitherto wild beast and put him in harness. It was at still later date that men ventured to bridle and mount a horse. At first it must have been a venturesome exploit, hardly less perilous than mounting on an aeroplane to-day.

We know from clear records that horses were harnessed and driven long before they were mounted. So the war chariot appears in warfare long before the cavalier. Homer's heroes never mount a horse. They go into battle in a chariot. Six centuries or so later the Greeks had given up their chariots but still had few horsemen. When Greek and Persian met in battle at Marathon (B.C. 490) the Persians had cavalry, but the Greeks brought only infantry into action. The Asiatic races were the first to form great bodies of cavalry. But even these were largely what we would call mounted infantry. The horse was used to bring an archer rapidly within range of his enemy, and to take him away safely after the attack. Horsemen were at first only the mounted leaders of infantry, the scouts, messengers, and skirmishers of an army. It took a long time to produce the ordered array of lance-armed horsemen, and still longer for men to discover that the horse was itself the best weapon of the cavalier, and that the shock of mounted men flinging the weight of horse and rider

on an enemy could break through and ride down hostile infantry.

The third arm—artillery—can hardly be said to have come into being till the days of gunpowder. Before that time there were indeed strange engines for hurling stones and darts, but they had no place on the battlefield, and belonged to siege warfare. Primitive battles were the conflicts of bodies of half-trained infantry, individually good fighters but not drilled for combined and ordered action, variously armed, mostly improvised soldiers fighting with such weapons as each could provide, and supported at times by a few horsemen. The battle was generally decisive of the campaign. For a beaten army broke up to escape massacre and slavery, and the victors dispersed almost as quickly to take home their plunder and their captives. These conditions have survived to our own day among semi-barbarous races on the borderlands of civilization. This is why there was for a long time so little danger of their winning any lasting success against the organized forces of European Powers. For even if the wild folk of a mountain or desert frontier won a local success they hardly ever were in a position to take advantage of it. Victory was promptly followed by the melting away of the victorious army. The conquests of barbarian peoples have seldom been of any importance unless where the campaign was not a mere raiding expedition, but the migration of whole tribes and nations, seeking new lands in which to establish themselves after massacring and enslaving the previous inhabitants of the coveted territory.

## CHAPTER II

### WARS OF THE EARLY EMPIRES OF THE EAST

**I**T is not often that we realize the lapse of time that has been covered by recorded human history. Here in England a thousand years carry us back to remote Saxon days ; another thousand takes us back to a century before Christ ; a thousand more, and we have gone beyond all European records and find ourselves in the dim legendary prehistoric region. But the monuments of the Nile valley and the great river region of Western Asia carry us still further back, and show us that even then there was a civilized world with a long past behind it. There were great cities and empires that to their rulers and peoples seemed as likely to endure to all time as the capitals and empires of to-day.

These great empires of the lands of Nile, Tigris and Euphrates had their armies and wars, their battles and victories. But we know very little of their campaigns and of the decisive battles of which the very names have long since vanished from history. In the museum at Cairo we can still look on the dead features of a conquering king, one of the greatest soldier rulers of the world, who reigned nearly four thousand years ago. For centuries the men of the East must have thought of Rameses II much as we now think of the great Napoleon. There are colossal monuments of his conquests far south in the desert Soudan, and his empire extended at least for a while to the river lands of Mesopotamia. He had fleets on the Red Sea and

the Mediterranean, and must have had huge armies at his command. But of his campaigns we have only the briefest records—such or such a land overrun, its king slain, its cities taken, its people forced to pay tribute. It is only by induction from somewhat scanty materials that we can imagine what the armies and the battles of the Egyptian conqueror were like. Even the pictures of the monuments give us little help. They are conventional representations of war, not battle pictures. They show us small groups of fighting men equipped for war or ceremonial parade; or they represent the King himself, of giant stature, in his war chariot, trampling under hoof and wheel and piercing with his arrows a mass of beaten enemies, represented as of pigmy dimensions in order to typify their helpless inferiority.

This much, however, we can gather. The Egyptian armies, in the days when the rulers of the Nile were mighty conquerors, were almost entirely composed of infantry. Cavalry had not yet been invented. The mounted men were charioteers, armed with bow and arrow. In our version of Exodus we read of Pharaoh pursuing the children of Israel to the Red Sea with "his chariots and horsemen," but the translator of the Septuagint version more accurately describes the pursuing vanguard of Egypt as composed of "the chariots and those who mounted on them." It is very likely that the chariot men of Egypt were the nobles and the freemen of the fighting class. These too would officer the infantry, but its rank and file must have been largely a slave militia. In all the old Oriental empires there was a large slave or servile class. In Egypt there were serfs tilling the land for its owners, and toiling at bucket-poles and water-wheels along the Nile; domestic slaves engaged in the household; slave artificers carrying on trades for their masters; slaves of the State—or rather of the King—working in the quarries of the Mokattam hills and among the granite ridges near Assouan, cutting out obelisks, pillars and architraves for temple and tomb,

building up or repairing the monuments along a thousand miles of the Nile, winning gold from mines in the Soudan and copper in the Sinai peninsula, and manning the King's transports on the river and his caravans in the desert. One suspects that the infantry who won the Pharaohs' battles was largely recruited from this slave class.<sup>1</sup>

There is evidence that the Egyptian infantry had at a very early date learned to march in column and fight in ordered array. Their usual weapons were the spear and bow. The sword and mace appear only as the auxiliary equipment of a few. Defensive armour had not yet developed to any notable extent. The soldier carried a shield, kite-shaped, and about half his height, rounded at the top, pointed below. Many are shown half naked, wearing only a wide kilt-like draping round the loins, and a cap with a veil or flap hanging down to protect the sides and back of the head from the sun. Others are bareheaded, with no other protection from sunstroke than a mass of black hair. In some cases there is a primitive kind of armour represented on the monuments,—the soldier wears a close-fitting metal helmet, and a garment not unlike the Norman hauberk, falling from the shoulders to below the knees. It appears to be a quilted fabric with plates of metal sewn upon it, an anticipation of the scale armour of later times.

Such were the men of the Egyptian armies. As time went on the Pharaohs strengthened their native levies with contingents of foreign mercenaries, Cretans, Greeks, men of Western Asia, and added to their slave militia armed negroes of the Soudan. They must have won fairly easy

<sup>1</sup> Slave militias have existed in the East in all ages. During one of the last of our campaigns against the Dervishes, I talked with Sir Rudolf Slatin in a desert camp about the enemy's organization. He told me that the Dervish rifle-armed regulars, the "Jehadia," were practically armed slaves. "But how can slave soldiers be trusted?" I asked. "They are not trusted," he said; "all kinds of precautions are taken. But there is little chance of their breaking away. They are like a pack of hounds—feed them and show them the whip and they are docile enough. If anyone is nasty he is killed, and the rest are taught a lesson."

conquests over the less civilized peoples on their borders and the Nubian races of the upper river. In our own Soudan wars history was repeating itself after many centuries. For the tide of conquest from the Delta followed the course of the river in those far-off times, a flotilla must have co-operated with the land army, and in that army the peace-loving fellahîn, taken from their fields to fight on the upper Nile, were accompanied by the more warlike men of other races.

On the base of one of the giant statues of Rameses II at Abu Simbel, a little north of Wady Halfa, there is the oldest Greek inscription in the world. It was cut in the stone by a Greek mercenary going south in one of these primitive Soudan expeditions. Beside it, some 3000 years after, English soldiers scratched their initials. They were bound for the same destination.

But their object was different. Gold and slaves were the results the Pharaohs looked for when they sent their armies to the lands beyond the cataracts. In these campaigns and the early wars in Western Asia Egypt was triumphant, because the Nile delta and the lands of the lower river were then a populous hive of men and life was cheap. Large armies could be sent into the field, capable of overwhelming the enemy by weight of numbers, disciplined order, and superior armament. In times when the warhorse was a novelty on the battlefield, the Egyptian chariots must have been a terror to the inferior races that encountered their attack. The charioteers would do the work of cavalry. The picked men mounted on the broad-wheeled car and whirled along at rapid speed would cover the advance of the infantry, find the enemy, and harass him with their arrows. Then the ordered lines of spearmen and archers would come into action. The showers of arrows, the rush of the spearmen, guarding themselves with their shields in level line, and with the spear point advanced, would bear down the irregular attack of hostile tribesmen, and as the enemy gave way the charge of the charioteers shooting and



trampling down the beaten foe would complete the victory and carry forward the pursuit. In such wars the slaughter after the fight was done would be heavier than in the actual conflict. At first little quarter would be given. Then when prisoners were taken it would be to march them homewards as slaves for life.

Such were the battles and conquests of early Egypt. But the day came when the warriors of the Nile met with more dangerous opponents, and were driven back before a new tide of conquest that came pouring out of the other great populous region of the ancient East—the land of the two rivers Tigris and Euphrates, the centre of the Babylonian and Assyrian Empires. Its people were a hardier race than the primitive fellahîn of the Nile valley, and they had to defend their growing cities and their wide tracts of fertile irrigated land against the warlike mountain races that bordered their country on the east and north. They must have developed a military organization and an elaborate armament at a very early date. Amongst the treasures of the Louvre is the sculptured stone known as the "Vulture Stele of Eannutum." He was a king who reigned some 3000 years before Christ and formed the first coalition of the Babylonian cities into a powerful State. The sculpture shows helmeted spearmen armed and equipped alike, locked together in a compact array, and protecting themselves with large square shields held edge to edge so as to form a continuous bulwark. It is difficult to realize that this represents the formation and equipment of Asiatic infantry of nearly 5000 years ago. It suggests rather the aspect of the Greek phalanx or the Roman legion of some 3000 years later.

This alone is enough to prove that in the populous lands of the Two Rivers military equipment, organization and tactics had reached a relatively high stage of development at a very early date. Later monuments of the Babylonian and Assyrian kings show further progress. We see that in their armies there was not only a considerable variety

of weapons in use, but that there was a recognized method of using variously armed men so as to make them work helpfully together. In all ages it was a weakness of the archer that if he were sufficiently rightly equipped to move rapidly and use his bow and arrows freely, he could not at the same time be armed to act as a spearman in close fight.<sup>1</sup> The battle scenes on the sculptured wall decorations of the palaces of Ninive and Babylon show us the archer and the heavy-armed spearman acting together. The spearmen carry a long shield, from behind which the archers shoot their arrows, and the spears are ready to form a bristling hedge to protect the bowmen from a hostile charge. In the same way these armies of the great kings of Western Asia had an elaborate mounted-infantry system. The chariot was used in war as in Egypt, but there were also horsemen, and these would seem to have been not so much cavalry trained to shock tactics, as what would now be classed as mounted infantry. For we find them working in couples composed of a mounted spearman and a mounted archer. The archer could shoot from the saddle or dismount to take a steadier aim, and in either case his comrade was at hand to guard him. We find the sword very generally forming part of the warrior's equipment, a short straight-bladed weapon, suggesting that those who carried it were ready to come to close quarters with an enemy. Besides all this, there was a great development of siege material. With the armies there went battering-rams protected by mantlets or swung from moving towers, that also enabled the archers to shoot over an enemy's rampart. There was further engineering equipment for rafting an army across the rivers. All these details show that the Babylonian and Assyrian armies in the days of their con-

<sup>1</sup> It is interesting to note here that (as we shall see later) there was the same difficulty in the case of the early musketeers. The man with the matchlock or firelock gun could not also carry a pike or spear, and the musketeers had to be protected by pikemen. The problem was not solved till the bayonet was invented in the reign of Louis XIV.

quests in Western Asia were formidable organizations, elaborately armed, equipped and trained. One has only to read the later books of the Old Testament to learn what a terror they inspired among the weaker nations on their borders, and what an impression of irresistible might was associated with them. The less warlike Egyptians were driven back into Africa; the mountaineers of the north and east were no longer able to raid the fertile river plains and were followed up into their own hill fastnesses. Those who met the armies of the Great King in the open went down before the shower of arrows and the charge of spearmen, horsemen and chariots. Those who took refuge in walled cities saw their ramparts crumbling and falling under the attack of the battering-ram,—the siege artillery of those early times. But of these battles and sieges we have no detailed account. It is the antiquarian, not the historian, that can give us some imperfect idea of what the wars and victories of Assyria and Babylon were like.

The empire of the Two Rivers grew weak by overgrowth. The process of enslaving the border nations and transferring whole tribes and peoples from province to province to make rebellion more difficult, and thus denationalizing the population, gradually changed the whole character of the organization. And when the Persian mountaineers at last gathered strength for an invasion of the fertile plain, with its rich cities and its miles on miles of irrigation canals, Cyrus had to deal with not a united Assyrian people, but an aggregation of many races, several among which were ready to hail the King of the mountain men as a deliverer.

The Medes and Persians came from a great upland plateau, on the wide levels of which they had learned to become excellent horsemen. The Persian cavalry are always spoken of as a formidable element in their armies. The bow was their national weapon. A hardy race, they descended upon the river plain at a time when the Assyrian Empire was in decay and torn by internal dissensions. Cyrus and his immediate successors were able to build up

out of its ruins a new Persian Empire, which within two generations extended its power to the Oxus in Central Asia, to the Indus on the borders of India, to Syria, Asia Minor, and the Greek cities along the shores of the Ægean Sea, and to the lands of the Nile in Africa. The ruler of this empire took the proud titles of King of Kings and King of the World. It was when he strove to make this last title good by extending his empire from Asia into Europe that he came into conflict with the Greeks.

It is at this point that the abundant and graphic records supplied by the Greek writers make a beginning of military history. We have no longer to confine our researches to such indications as are afforded by pictured monuments and fragmentary records of war and conquest. We have detailed accounts of battles and campaigns.

And in this first page of military history, properly so called, we see the beginning of that long conflict between East and West in which the European for two thousand years showed his military superiority over Asiatic and African races. There were few sets back in this tide of white conquest which gradually made the white races the masters of the world. Only in our own time there are the first indications that this long chapter of history may be nearing its end.

### CHAPTER III

## GREEK AND MACEDONIAN WARFARE— THE PHALANX

**T**HE Greek soldiers of the days of the Persian wars were, for the most part, citizens and country folk temporarily armed and enrolled for the campaign, at the end of which they returned to their houses and farms. I say "for the most part," because even at this early period it is likely that there was a small element of what one may call professional soldiers. At a still earlier date we know that Greek mercenaries sold their skill in arms to foreign employers, and some of these adventurers on returning to their native cities would no doubt place their experience at the service of the generals when there was a call to arms. But their numbers must at this time have been insignificant, nor would their professional standing count for as much as the reputation for good conduct in the field that some of the older stay-at-home citizens had already won in local wars. The general of mercenaries figures as an important man only in the period that followed the Persian war, when the fame the Greeks had acquired by their victories over the vast armies of the "Great King" made soldiering a regular trade, and Greek valour and military skill were sold to Eastern princes, Sicilian despots and the merchant rulers of Carthage.

But though in the glorious days of Marathon and Plataea the Greek armies were citizen militias, they could not be counted as mere hasty levies of untrained men. In Sparta, a State permanently organized for war, there

was regular peace training of the citizens, begun in boyhood and carried on far into middle age. In the other States, though there was no such systematic method, there was some substitute for it in the existing conditions of life. These old Greek Republics, that fill so large a place in the story of the ancient world, were small in the extent of their territories and the numbers of their people. Most of them were no larger than an average English county. Many of them might be described as made up of a walled city of no great size, with a dependent tract of country around it containing a few villages. What with the strife of factions within the State and quarrels with its neighbours, wars were frequent enough for it to be a rare event for a citizen to reach the age of twenty-five or thirty without having seen some service in the field. The boys and young men were prepared for it by the system of physical education that formed a large element in Greek education. It was the athletic festival at Olympia that held the States together in a loose confederacy, and no success was more highly prized than that of the local champion in these national games.

And this athletic system of training was closely connected with practices that secured for the pupil the endurance necessary for a man who was to march and fight in armour, and the activity that would enable him, thus encumbered, to use his weapons. Racing in armour was a sport, and the war dance of armed men—the Pyrrhic Dance—was a training both in endurance and in co-ordinated movement. Every household kept a certain amount of armour and weapons as part of the family possessions, and the citizen was thus a trained athlete who had his military equipment always at hand.

The typical Greek warrior was the *hoplite*—the heavily armed infantry soldier. His defensive armour was a corselet and a lighter backplate, covering the body from shoulders to waist and leaving the arms bare. On the head a crested helmet was worn, coming well down

over the ears, and generally fitted with a visor to cover the upper part of the face. The shirt or tunic worn under the armour hung down nearly to the knee, and the lower part of the legs was protected by metal greaves. Sandals were the foot-gear.

This armour was only a partial protection. It was supplemented by a wide round shield worn on the left arm, and bearing the emblem or the initial of the warrior's city as a distinguishing mark. The shield, brought to the front by bending the arm across the body, protected the gap between the corselet and the greaves as the soldier bent forward in the charge. Thus heavily armoured, the easiest, and at the same time the most effective, method of attack for the soldiers was the move directly to the front with levelled spears. So the long spear was the characteristic weapon of the Greek hoplite. The short sword that hung at his belt was only an auxiliary weapon, to be used on an emergency when the spear was out of action, or employed like a big dagger to finish a fallen enemy.

The hoplites fought in a serried mass—usually eight deep—the best men in the front line. The rearward lines gave weight to the frontal attack, and there was no need for any but the simplest manœuvres. Lighter-armed troops, sword and buckler and javelin men, with a sprinkling of archers and slingers, were in the earlier days of Greek warfare counted as of no great importance. They were useful on the line of march and in camp as the transport men and servants of the heavily armed warriors, on whose valour the event of the battle would depend, and who were spared all work but the actual marching and fighting. In battle the light-armed might be used to scout in advance and open the engagement, but as often as not they waited to take their part in the ruthless pursuit of the flying enemy. Cavalry were few in numbers—often there was none.

In the Athenian war levies the distinction between the heavy-armed hoplites and the light troops was strongly marked by a wide difference of social grade. Athens was

the most powerful State north of the isthmus of Corinth, and its trade and the possession of silver mines worked by the Government had made its citizens a wealthy class. And much as they talked of liberty as "the best possession of men," they were the masters and owners of a large slave population. When the Athenian hoplite went to war he was accompanied by a lighter-armed serf as his personal attendant. These serfs and the poor burghers who could not afford the possession of a complete equipment or the leisure to acquire skill at arms of the highest grade, formed the light troops of the citizen army. And just as in a mediæval city, when the townsfolk took up arms, they were organized by wards or according to their trade guilds, so the Athenians were organized in ten divisions corresponding to the ten "tribes" of their city. Each tribe chose its general, and all important decisions were settled by the ten meeting in council under the presidency of a State commissioner, named by the Government, and known as the *Polemarchos*—the "War-director."

Such was the half-democratic, half-aristocratic military system of Republican Athens at the period of the Persian War. The remote cause of the conflict was the gradual expansion of the Persian Empire to the westward; its immediate occasion was the interference of an Athenian contingent in an abortive rising of the Greeks of Asia Minor against the Persian rule. So the war between Europe and Asia began—the former having for its champion a Greek city, and the latter an empire that extended from the Indus and the deserts of Central Asia to the Black Sea and the Mediterranean, and included Syria, Egypt, and the lands of the Tripoli of to-day within its boundaries. Darius the Great, the master of many millions, with a record of unbroken victory, might well count it no serious task to subdue and punish what in his eyes was nothing more than an outlying tribe of barbarians.

The first trial of strength was fought out one afternoon in the autumn of 490 B.C. on the plain of Marathon. The



result was decisive of more than the fate of a single campaign. It gave the Greek, and through the Greek the European, that feeling of superiority over the Asiatic that influenced the course of events for long centuries. The story of this epoch-making battle has been often told. In this outline study of the history of land warfare we have only to note some of its features that throw a light on the fighting methods of the times.

The Greek historians say the Persian army was 100,000 strong, and was opposed to 10,000 Athenian heavy-armed men and 1000 of their allies from the city of Plataea. This would be a fight for the Greeks against tenfold odds. But there is good reason to revise these estimates.

A hundred thousand would be no unlikely total for a Persian army. The "Great King, King of Kings, King of many peopled countries, the upholder of this great world" (as Darius styles himself in his inscription on the rock of Behistun), had only to decree a forced levy to muster as many men as he wished for. If any province refused to supply its contingent, it would be an act of rebellion, that would be swiftly punished by letting loose upon it the soldiers of some other subject race to massacre, plunder, and destroy. Doubtless many nations and tribes would come in a half-hearted, reluctant spirit. They would fight as slaves with no zeal for the quarrel. Some indeed, like the mountaineers of Kurdistan and the Afghan highlands, would come as they still go to battle, rejoicing in the dangerous sport of war. But of the whole array probably the only troops that felt something like a patriotic impulse and a sense of loyalty would be the men of the conquering Median and Persian races, the kindred of the King and his best fighting men.

As the army had to be ferried across the Ægean the number of mounted men was reduced to a minimum. Though cavalry was the best element in the Persian armies, except mounted leaders there were no horsemen engaged at Marathon. It is quite possible that in the grand total

of the expedition the crews of hundreds of ships were included. This would deduct many thousands from the fighting force. But there is another and more serious deduction to be made of a kind about which historians are strangely silent in dealing with these old wars. In the camps in Asia, in the crowded ships, and then in the preliminary raid on the island of Eubœa which precluded the invasion of the mainland of Greece, and in the long halt among the marshes on the plain of Marathon, there must have been heavy losses by fever, dysentery, and those other maladies that even with all the resources of modern science it is so difficult to hold in check when great masses of men are kept together on active service.<sup>1</sup> Further, we know that some days after the army had landed on the coast at Marathon a considerable part of it was re-embarked with the idea of making a dash at Athens by sea. The Persian army drew in its lines to the southern part of the plain. It is not likely that there were more than 60,000 men left on shore. There may have been even less.

The plain of Marathon, on the seaward side of which the Persian army encamped, was then a stretch of open ground without fences or cultivation, with no villages and probably only a few rude huts of herdsmen and shepherds. The plain is about six miles long, and extends at its widest part about two miles inland. On the land side it is bounded by low rocky hills. These form a crescent-like curve, with its seaward extremities following the flatter curve of the Bay of Marathon. Through the hills in a ravine-like valley runs the road or track from the coast to Athens. Near the seashore the ground to right and left of the position held by the invaders was somewhat narrowed by wide stretches of marsh.

The Athenians and their Platæan allies camped in the

<sup>1</sup> At Marathon the water supply of the Persian camps would be from a small stream and the pools of the marshes. This doubtful supply would soon become infected. The losses of the army by sickness must have been heavy, though history is silent on the subject.



BATTLE OF MARATHON

GREEKS ■ Heavy armed . ◻ Light armed following the charge  
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hills barring the road. It is generally said that the allied army was just 11,000 strong. But this was the number of the heavy armed. We must add to it the large force of light troops that accompanied the hoplites. With the Athenians these must have at least equalled the number of the heavy armed, for every citizen took with him a servant to wait upon him in camp and carry his baggage, and even his great shield, on the line of march. The total force must have been at least 21,000, perhaps more. In traditional accounts the numbers of the Greeks have been minimized, and those of the Persians placed at the highest possible figure. But after making all necessary allowances, we may safely say that instead of the proportions between the force of the invaders and the defence being ten to one, they were at most four to one, and very likely only three to one.

The Persians had remained camped in the plain for more than a week, apparently in the hope that the friends of a group of political exiles from Athens, who were with them, would arrange a *coup d'état* that would open the way to the city. The battle was brought about by the Greeks taking the offensive and descending into the plain to attack them. While the advance was being made across two miles of open ground, the latter part of which was traversed at a run, the satraps had set their army in battle array, the Medes and Persians in the centre, the troops of the subject nations on the wings that stretched away to the sedgy marshes on the left and the swampy banks of a stream on the right. Against this crowded mass the Greek army hurled itself. If we study the details of the collision we shall understand the mechanism of an attack by heavy-armed hoplites, and see how and why it was that it was so effective.

The Greek narratives of the battle tell only of the exploits of the hoplites, leaving the common folk almost entirely out of the picture, just as medieval singers of war dwell upon the prowess of knights and men-at-arms,

saying but little of mere peasants and burghers who tramped on foot. As to the battle order, we are told that Miltiades, the Athenian strategos who commanded on the day of the action, varied the usual eight-deep order of the heavy-armed in order to secure a longer front for his line. At each end of it there was the traditional eight-deep mass of spearmen, the Platæans on the right, Athenians under the Polemarch Callimachus on the left. The centre, commanded by Aristides and Themistocles, was only four deep. We have no precise numbers of the three divisions, but if we suppose that the centre equalled in its front the two wings combined, with only half their depth, there would be on the right the thousand of Plataea supported by some 1500 Athenians, on the left between 2500 and 3000 Athenian spearmen, and 5000 to 6000 more in the centre. This would give a front of between one and a half and two miles. As the Persian front must have been still longer, the flanks of the Greek array would be enveloped by their mass as the charge pushed into the hostile lines. One suspects that the mere vulgar crowd of light-armed serfs and poorer citizens came in usefully to meet this danger. There were at least 10,000 of them, and they were certainly in at the finish. No doubt they went forward under cover of the advancing line of spears, and then poured out on either flank after the first shock so as to check any rush of the enemy round the wings of the Greek array.

The main advance would be utterly unlike that of a modern army. There were no standards or mounted leaders to guide it. The generals on foot in the front rank gave the direction to their divisions. The line was a linked array of round shields, the helmet plumes nodding above them, the heavy spears projecting well in front. Martial music there was none, but the war-song, shouted by thousands, marked the cadence of the charging step and helped to excite the enthusiasm of the attack.

As the advancing line neared the Persian front flights

of arrows rattled among the shields and spears. The bow was the characteristic weapon of the Medes and Persians and of many of the subject races, and the invading army must have been strong in archers. But the bow was never for the Asiatics the formidable weapon that became, centuries later, in English hands a winner of battles. The Oriental liked to use it from the saddle, galloping backwards and forwards and harassing the enemy with the arrows ; or on foot he used it from behind the shield of a comrade to pick off the defenders of tower and battlement in a siege ; or in a fight on a fair field he exchanged arrow flights with opposing archers. But Eastern archery was never effective enough to deal with a rush of determined men wearing protective armour. The arrow from the short bow could not pierce shield or corselet. At Marathon the shower of arrows did little harm, and could not check for a moment the wave of shields and spears that came roaring on the Persian front like a long surge flooding a beach.

The shock of the charge—the sudden collision between a halted line and this close-locked mass of heavily armed men moving at their utmost speed—must have been something of overwhelming force. And to this merely mechanical effect we must add the damage done at the first contact by the spears boring through the lighter quilted or scaled armour of the Persians, or hurling men to the earth where the point failed to penetrate. It says much for the fighting value of the men in the centre of the halted line, the Medes and Persians, the conquerors of Asia, that they stood up against this terrible onset, and for a while more than held their own. To left and right the wing columns of the attack bore down all before them, driving deep into the array of the Persian tributary peoples, so that presently they had to meet with enemies on all sides, and the spears of the outer ranks were busy on flank as well as front. The close order of the Greeks and their armour protected them against the weapons of the enemy. The personal fighting

power of each armed athlete enabled the Greeks to inflict serious loss in this fight at close quarters. As the Persians broke before them the lighter-armed Greeks found opportunity for striking into the battle.

In the centre, met by the stubborn resistance of the Medo-Persian corps, the Greeks had been first held, then slowly forced back by mere weight of numbers without however suffering serious loss. But the onward pressure of the Persians was soon arrested as the victorious wing columns, driving all before them, began to approach each other through struggling mobs of broken men. The satraps who commanded the centre of the invaders saw themselves in danger of being cut off, and attempted an orderly retirement with a view of reforming nearer the sea. But once the move backward began there was no stopping, and, attacked in front and flanks, the Persian centre broke.

The battle was now won. The Greeks, heavy-armed and light-armed combined, 20,000 exulting men, pressed upon the Asiatics as they fled in a confused mob to the ships. The fight ended with the struggle around these as the enemy launched the last of them from the shore.

The Athenian hoplites—the 10,000—lost 194 men killed; there is no record of the number wounded. The dead were buried under the great mound that still marks the battlefield. It is no longer surrounded by the ten columns on which the traveller Pausanias, six centuries later, read the names of the fallen heroes of the ten Athenian tribes. We have no record of the Plataean loss. If it was on the same small scale it would be about twenty men. Nor are we told how many of the light-armed fell in the battle, but we have proof that they were engaged in it in the fact that their dead were buried in a second mound. A third tumulus was the grave of the handful of fallen Plataeans.

If anything there is tendency to exaggerate the loss of a defeated enemy, but according to the Greek historians that of the Persians was only 6400. In the fight and pur-



suit, in which no quarter was given, 10 per cent would not be an unusual loss. This would suggest that at the very most the Persian army was 64,000 strong, so that the vanquished would be to the victors in the proportion of about three (not ten) to one.

Such was the battle of Marathon, a splendid example of the fighting methods of the typical Greek warrior, the heavy-armed hoplite. It was in a wider sense typical of battles between the European and the Asiatic for many centuries to come. It has become a maxim of such warfare that, whatever may be the disparity of numbers, the best hope of victory lies in a bold attack pressed rapidly home. As Miltiades charged the Persian multitude with his 10,000, so, more than twenty centuries later, Clive at Plassey, Wellington at Assaye, Havelock and Outram, Clyde and Strathnairn in the battles of the Mutiny "struck with their fiery few and won." In this long period of warfare whenever West has met East the bold attack, reckless of numbers, has been the way to success.

The supremacy asserted at Marathon for the European over the Asiatic was confirmed by the failure of Xerxes, the successor of Darius, to avenge that defeat. Then for a while the martial energies of the Greek States were put forth in recurring periods of internal strife. These wars, in which Greek met Greek in stubborn battles, would be as little remembered as the obscure struggles of the petty kingdoms of the Saxon Heptarchy, were it not for the fact that they are recorded in a literature that is one of the permanent possessions of the world. For the student of naval history these wars have often a special interest, as illustrating the wide-reaching influence of sea power. In what concerns battles on land the most notable point is the increased importance and more organized use of the light-armed troops. They were now known as *peltastai* or "buckler-men," for their chief defence was a light target or buckler. It gradually became their recognized duty to protect the flanks of the heavy-armed array, and if the

opportunity offered to fall upon an exposed flank of the enemy. Cavalry began to be more frequently employed, though its use was necessarily restricted in a mountainous country like Greece. It was in the northern region of Thessaly that this arm was most important.

The fame of Greek valour and soldierly skill had also made it easier for adventurous spirits to find employment as soldiers of fortune and mercenaries under foreign princes. One adventure of this kind had more than passing importance, and produced a far-reaching effect on the fortunes of the Hellenic race and the future of civilization. About the close of the fifth century B.C., the opening episode of which had been the Persian war, Artaxerxes Mnemon was reigning over the Medo-Persian Empire and his ambitious brother Cyrus the Younger was satrap of Asia Minor. Cyrus had a number of Greek mercenaries in his pay. When he formed the plan of marching on the capital at the head of a rebel army to dethrone his brother, he enlisted some thousands more. No opposition was offered to his advance till, after a march of some months' duration, the rebel army had reached the plains of Cunaxa, near Babylon. There a battle was fought against the royal army, which ended in the defeat and death of Cyrus (Sept. 3, B.C. 401).

The Greeks—10,000 strong—had been posted on the right wing, and charging like the 10,000 of Marathon, they had borne all before them in one swift rush. As the left of the royal army broke before their onset they had the opportunity of deciding the fortunes of the day. All they need have done was to wheel to their own left and roll up the long Persian line, already engaged with the native troops of Cyrus in its front. But the leaders showed no generalship. Reckless of the decisive part they might have played, they pursued the troops they had broken for some miles, halted for the night ignorant of the fate of the army to which they belonged, and only learned next day that Cyrus had been killed and his forces cut to pieces or dispersed.

The victorious Persians entered into negotiations with the leaders of the mercenaries, lured the generals and chief officers into their camp, and there treacherously murdered them. The little Greek army was then summoned to surrender to the mercy of the Great King. But instead of thus placing their lives and fortunes at the disposal of the Barbarians they decided to elect new leaders and fight their way back to the sea-coast. Xenophon the Athenian, afterwards the historian of the great adventure, was given the chief command, and under his leadership the 10,000 fought their way across the plains of the Euphrates and through the mountains of Kurdistan and Armenia, sweeping all opposition aside and enduring many hardships with unbroken spirit, till the day came when from the hills above Trebizond they saw the sea again, and had secured their safe return to their cities. The long march thus made in defiance of all the power of the "Great King" by a mere handful of soldiers revealed the general weakness into which the Persian Empire had fallen. The returned Greeks declared in every city that it would be at the mercy of any leader who could invade it with a moderately large force.

Within seventy years the attempt was made with all the success that they had predicted. But not until the power of Greece had been welded together in the hands of one strong man.

It is often said that history repeats itself. At the opening of the nineteenth century Napoleon, who was not a Frenchman but an Italian islander, overran Europe with armies nominally French but made up in reality of many nations. It was a curious parallel to the fact that in the fourth century B.C. Alexander, who was not a Greek, but belonged to the "Barbarian" race of Macedon, overran the East at the head of an army nominally Greek, but largely composed of non-Hellenic races.

His father Philip had formed the army that was to be his instrument of conquest and secured by an unscrupulous

policy of aggression the headship of the Hellenic race. This was made possible for him by the factions that not only divided city from city but set parties against each other in most of the States. Another factor helped to paralyse the power of the Hellenic cities. In the century that followed the Persian war—the golden age of Greek literature and art—there came with the increase of wealth, ease and civilized comfort a growing indisposition for the old-fashioned military service of the citizen militia. There was a tendency to pay others to do the necessary fighting instead of each man counting personal service a duty. Pugnacity and civic patriotism were on the wane, and men, counting their gains from trade and agriculture, became even chary of expenditure on preparation for any peril that was not imminent. So the mercenaries found a market not only in foreign States but in the Greek cities themselves. Like the Italian Republics of the Middle Ages, the Greek cities began to substitute in more or less degree for the old civic levy of hoplites the hiring of professional soldiers. Men like the condottieri of the fourteenth and fifteenth centuries raised bands of mercenary troops and sold their services to this or that city. Such chiefs and followers could never be counted upon to fight with determined energy like that of the old civic troops who had everything staked on the quarrel. If the fortune of war turned against them and there was scant prospect of pay or plunder, they could always save themselves by a timely capitulation and then transfer their swords to another employer.

With Greece thus torn by faction and enfeebled by the decline of the old patriotic fighting spirit, there came upon the scene a new nation, still "Barbarian" enough to love fighting for its own sake, and uneducated enough to follow its hereditary ruler in the boldest schemes of conquest without debating on his policy. Macedonia was outside the Greek world, though its ruling class had some share of Greek culture and ideals. The mass of the people were

shepherds, herdsmen and small farmers. They had to hold their own against the incursions of the still ruder tribes of the Balkans, the Albanian mountains and the Danubian plain. Like the Thessalians they had plenty of horses, and the men of the better class who had time to spare for athletic pursuits were splendid riders. Until Philip's times the best arm of the Macedonians was their cavalry. The men were well mounted and could use with effect the short spear that was their weapon for close combat. But their infantry was a badly armed and wholly untrained levy of peasants, with no defensive armour beyond leather caps and wicker shields, and for offensive armament a miscellaneous collection of old swords and spears, bows and slings.

Philip of Macedon, when he formed his plans for intervening in the politics of Greece and making himself the master of its divided factions, set to work to create an effective fighting machine. He had considerable financial resources at his command, and year after year spent money freely on armaments. He improved the cavalry and created a most formidable infantry force. He took skilled mechanics into his pay and gradually accumulated a siege train that was the wonder of his time,—wooden towers that could be conveyed in wagons piecemeal and put together before the walls of a besieged city; battering-rams; mantlets or shelters mounted on wheels; engines for discharging javelins or heavy stones. No walled city could long resist his attack, and for battle in the open field he had elaborated a new tactical formation—the Macedonian phalanx.

The hoplite was the unit of the Macedonian as of the Greek phalanx, but a hoplite armed in a different way. We shall see the same armament and tactics reappear for a while in European war after a period of more than 1500 years. Then, as in the Macedonian period, its predominance did not last for more than a century. It is an interesting episode in the history of war.

Tactics depend on weapons, and the characteristic weapon of the Macedonian hoplite was the *sarissa*, a pike over twenty feet long. The spear of the Greek hoplite was short, so that grasped by the middle of the shaft it could be used with one hand. The great round shield hung on the left arm, and the left hand had to be used to steady it in front of the body. In bearing down an enemy's resistance the hoplites not only thrust with their spears, but pressed back the opposing line by throwing their own weight upon the man immediately in front, pushing the shield against him with the left shoulder leaning forward.

The Macedonian could not use the great shield. His twenty-foot pike required both hands for its management. The left hand gripped the shaft behind the middle, the right held it some feet further back. Thus the point projected some ten feet in front of him. To enable him to balance his weapon there was a heavy ball of metal fixed to its rearmost end. Now if we imagine the pikemen drawn up in several lines in close order, we will see that the spear points of the three leading ranks would project in a bristling hedge of steel in front of the foremost line. The standard formation was sixteen deep. The file of sixteen men from front to rear, known as the *lochus*, was the tactical unit, the best men being placed in front, and the file leader or *lochagus* who stood first in the file was the commander of the group. He was what we would now call a non-commissioned officer, and in modern parlance we may say the front of the phalanx was a line of sergeants. Sixteen *lochi* side by side formed a kind of battalion, having in its ranks  $16 \times 16 = 256$  men. In forming the phalanx these battalions were placed side by side in line in actual touch. Ten of them would thus form a line of pikemen 160 men to the front and sixteen deep, the pikes of the leading ranks levelled and bristling in dense impenetrable array; those in the rearward ranks carried their weapons at a forward slope of about forty-five degrees. It was found in practice that this forest of sloping spears was a

very good protection against the arrows of Asiatic enemies. Most of the missiles were caught among the long spears and fell harmlessly among the men.

Everything depended on unbroken ranks, perfect drill and steady movement. The phalanx could never manoeuvre over broken ground. It needed a fairly level plain for its attack. Halted, it was perfectly safe so long as the men held their spears steadily, butts in the ground if necessary. In the attack against the old hoplite array it was no less formidable than on the defensive. The shorter Greek spear could not reach even the foremost men. The phalanx, pressing steadily on with its hundreds of pikes projecting well to the front, bore down all opposition with hardly any loss to the Macedonians. The American Admiral Farragut used to say that the best protection against an enemy's fire was the well-directed fire of one's own guns. A Macedonian might have said that the real protection against the enemy's spears was the unbroken hedge of long-reaching pikes held in even line. So the Macedonian phalanx-fighter discarded the shield. Only the *lochagi*, or sergeants, of the front rank had any protection of the kind, and this was limited to a small round buckler fastened to the left arm to protect it as it was held forward on the shaft of the pike. Wherever in Philip's wars with the Greeks the phalanx met the old-fashioned hoplite array front to front, the Macedonian pikes carried all before them.

But the system had its defects, and the phalanx had to be protected and assisted by other organized bodies of fighters, without whose co-operation it was helpless. By elaborate training the *phalangites*—the soldiers of the phalanx—were able to form their battle array very rapidly, but once the solid masses were locked together and the long spears levelled, the phalanx was committed to action on a single prolonged front. To a flank attack it could only present a few spears with a dangerous undefended gap at the angle between front and flank, where the spears could no longer be levelled in unbroken order, side by side.

The rear was less vulnerable, for here the triple row of pike points could be formed, and for this purpose a good man was always chosen for the rear file of the *lochos*. Then there was the difficulty that the whole system could be made to work only on fairly level and perfectly open ground. It was too rigid and cumbrous. To protect it there were auxiliary bodies of "shield men" who were really hoplites not quite so heavily armed as usual, and carrying the shield and the short spear. These and the peltasts, or light-armed buckler-men, protected the flanks of the phalanx and skirmished in its front. After they had opened the battle, the pikemen in their close array were thrown on the decisive point like Napoleon's Old Guard.

As Philip increased the fighting power of his infantry by inventing the pikemen of the phalanx, so he improved the efficiency of the Macedonian cavalry by arming his best squadrons, not with the short spear that till then had been the weapon of the Greek cavalry, but with long lances. This made it possible for them to charge and ride down spearmen on foot, and made them as much superior to hostile cavalry armed in the old fashion as the phalangite was to the hoplite. Other squadrons of the Macedonian army carried the shorter spear. Besides these regularly trained and uniformly armed troops on horse and foot, there were auxiliaries from various Thracian tribes, archers, slingers and other light troops. A Macedonian battle was fought out by the studied co-ordination and co-operation of all these various arms. The cavalry opened the fight and took up the pursuit at its close. After the first mounted attack the light-armed infantry and hoplites engaged the enemy all along the line, then at the chosen point for decisive action the phalanx was sent into the fight and bore down all opposition before its terrible array of levelled pikes.

Philip of Macedon had formed this formidable army, and made himself the dictator of Greece. He had secured from the representatives of the Hellenic States a decree appoint-



ing him the commander-in-chief of an intended expedition into Asia that was to avenge the earlier aggressions of the Persian kings and destroy their Empire. On the assassination of Philip his son Alexander seized on the vacant throne and by vigorous measures disposed of rival claimants, and foiled the attempts of the patriot party in Greece to throw off the Macedonian overlordship. In these proceedings he showed the ruthless cruelty that was a blot upon his fame in his subsequent conquests. Then came his wonderful career of victory that changed the face of the East.

The army that Alexander the Great ferried across the Dardanelles in the spring of 334 B.C. was not a large one. Greek and Græco-Macedonian armies were never numerous, for they represented the fighting power of what was only a comparatively small population. Quality had therefore to make up for the defect of quantity. In the invasion of the Persian Empire there would have to be battles against odds so far as numbers were concerned, but by this time Greek leaders were not likely to be misled by the fallacy of counting heads.

The Macedonian army numbered 30,000 infantry and 4500 cavalry—about the strength of a modern European army corps. More than half of it was made up of Macedonians and the dependent races of the northern kingdom. The picked corps of the phalanx, with its support of hoplites, numbered 12,000. There were 6000 light-armed infantry from Thrace and Illyria; 1500 of the cavalry were heavily armed Macedonian spearmen and lancers; 1500 more were Thessalian horsemen. Nearly a thousand were light cavalry from Thrace and other "barbarian lands." The purely Greek element was everywhere in the minority, and nearly all the superior officers were Macedonians.

Besides the cavalry and infantry there must have been a large number of officers and men employed in the transport and management of the elaborate siege train. These and the many non-combatant auxiliaries,—slaves, labourers, transport men,—probably account for the larger estimates

that raise the total of Alexander's army to over 40,000 men.

The fate of the Persian monarchy was determined by three campaigns, including three pitched battles and numerous sieges. In the first battle—that of the Granicus—fought within a short distance of the place where the invaders landed, the local satraps of Asia Minor barred the advance at the crossing of the little river Granicus. They had a force of 20,000 horse and as many foot, the latter chiefly Greek mercenary troops. The river was fordable all along the front with a steep sloping bank on the Persian side. The Macedonian army advanced to the crossing in battle array. In the centre bristled the long pikes of the phalanx. The right of this great mass of heavy-armed infantry was prolonged and protected by the lighter-armed hoplites, and the left by the Thracian infantry. Further to the left were the Greek and Thessalian cavalry, and the right wing was formed of the Macedonian horsemen, the lancers, and the heavy-armed Life Guards, known as the "Companions" of the King, with a contingent of archers and dart throwers. Alexander, arrayed in armour that flashed with gold ornaments, rode at the head of the Companions, and as the advancing army approached the river bank the Persians recognized his presence on the right of the attack and moved their best squadrons to their own left to oppose him.

Along their side of the Granicus there was now a splendid array of Asiatic cavalry, bright with colour and glittering with arms. The satraps hoped with these to ride down the invaders as they came struggling up the bank from the fords, and they left their heavy-armed infantry standing idle in the rear of their line. Alexander was thus able to beat them in detail. His right was first across the river. He showed little generalship. There was no attempt to outflank the enemy or bring a locally superior force to bear on any part of their line. Once the attack was launched the King fought among his Life Guards, intent rather on

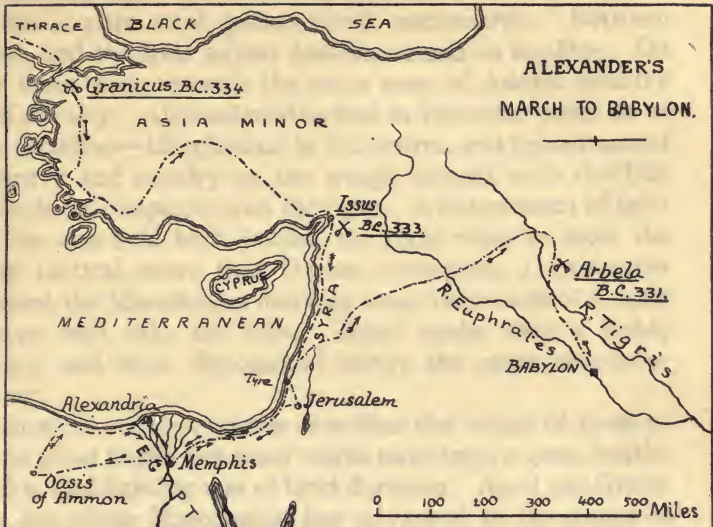
playing the part of a Homeric hero in single combats with the enemy than on retaining any power of directing the course of the fight. It was only after many centuries of warfare that it was at last realized that the general had something better to do than to play the mere man-at-arms, and that his place was not in the *mêlée*.

After a brief struggle the Macedonian horse gained a footing on the bank. The cavalry of both the right and left showed themselves more than a match for their opponents, but what forced the enemy from the bank of the river was the steady advance of thousands of levelled pikes in the Macedonian centre, as the men of the phalanx came up in solid masses from the broad ford and swept horse and man before them. Once in contact the Persian horse could not break through the hedge of spears and could do little harm with their missile weapons, and as the centre was pushed back the wings also had to give way. When the Persians saw that the whole Macedonian army was across the river, and the phalanx was pressing onward with irresistible might, strewing the ground as it came on with the men and horses that went down before the long pikes, a panic spread through the Asiatic cavalry. They streamed away to flanks and rear riding for their lives. Alexander checked the pursuit and attacked the infantry with the phalanx in front and charging cavalry on flank and rear. After a brief fight the mercenaries threw down their arms and the battle was won, with trifling loss to the victors.

For some time the Persians made no attempt to meet the invaders in the field. But to complete the conquest of Asia Minor Alexander had to undertake a number of sieges. The conquest of the whole Persian Empire was the work of only four years, much of this time being taken up with the sieges of walled towns and the long marches needed to penetrate beyond the Tigris and the Euphrates. Twice Darius offered battle to the invaders, each time with disastrous results for himself. In these battles he mustered hundreds of thousands against the little Græco-Macedonian

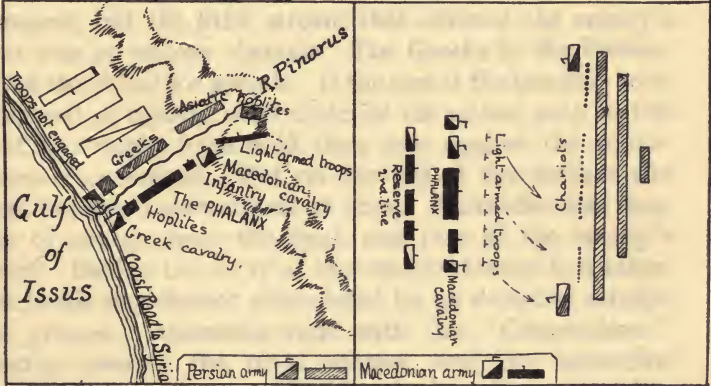
army, but on each occasion there was a new proof that the disciplined valour of a comparatively small European force could destroy and disperse an armed multitude of Asiatics. "The thicker the grass grows, the more easily one mows it down," was the grim word of a Barbarian conqueror in the days of the downfall of Rome eight centuries later. Alexander might have said the same thing of his easy victories over the vast armies of the "Great King." Numbers are useless unless they are made up of effective fighting units, and the Persian armies were composed of very unequal materials. Even the Greek mercenaries that formed their most valuable element were inferior in armament and discipline to the picked troops of the phalanx. There were corps of Asiatic troops armed and equipped like the Greek hoplites, but they were only masquerading as effective men-at-arms. The Persians and Medes themselves were no longer the hardy mountain folk that had conquered Babylon. The hill and desert tribes they called to their aid were undisciplined Barbarians, unequal in armament to Macedonian and Greek, and helpless against the ordered advance of serried spears. The horsemen charged in disorderly mobs against which the disciplined squadrons of Alexander's cavalry were terribly effective, apart even from the fact that the Asiatic cavalier fought by throwing his light spear or using the bow from the saddle, while his opponent relied on the long lance or the short stabbing spear used at close quarters.

Darius fought his first battle against Alexander in the narrow stretch of plain between the mountains and the sea that is the highway from Asia Minor into Syria. The exact spot cannot be determined, but it was on the banks of a stream that runs down from the hills into the present Gulf of Iskanderoon, where the coast line bends from its west to east direction and begins to run from north to south. To choose such a battle ground was to play into Alexander's hands. Perhaps as many as half a million men were mustered under the command of Darius, but on the narrow



1.

3.



**ALEXANDER'S BATTLES**

1. Sketch map of the advance to Babylon

2. ISSUS. B.C. 333  
(Battle against numbers in a defile)

3. ARBELA. B.C. 331  
(Battle against numbers in an open plain)



The following information is provided for your reference:  
 1. The data was collected from a series of observations.  
 2. The results are presented in the tables below.  
 3. The accuracy of the data is estimated to be within 5%.  
 4. The information is intended for use in the project.  
 5. The data is subject to change without notice.

front between the steep mountain wall and the beach he could only place in the actual fighting front some 90,000. In the centre were 30,000 Greek mercenaries. Between them and the hills 30,000 Asiatics armed as hoplites. On the other wing towards the sea a mass of Asiatic infantry and cavalry. Alexander attacked in the same order as at the Granicus—the phalanx in the centre, and lighter armed infantry and cavalry on the wings, himself with the Life Guards or Companions on the right. A detachment of light troops was held back behind the right wing to meet the only tactical move that Darius attempted, a movement against the Macedonian flank by some thousands of Asiatic troops sent into the hills. These made only a feeble attack and were disposed of before the main encounter began.

Grote in a happy phrase describes the action of Issus as not a great battle but what might have been a great battle. The actual fighting was of brief duration. As at the Granicus, the whole Macedonian line advanced to the sound of trumpets, but the little stream that covered the enemy's front was no serious obstacle. The Greeks in the Persian centre stood fast for a while. If the rest of the line had been composed of equally solid material the 90,000 men in the front line might have held their own against the 40,000 Græco-Macedonians. But on the left of the defence the sham hoplites broke almost at once. Alexander was then able to charge upon the flank and rear of the enemy's centre. Behind the array of mercenaries Darius had taken post in his war chariot surrounded by an escort of satraps and princes. Alexander rode with the "Companions" directly towards the royal chariot, and the unwarlike "King of Kings," seeing the Macedonian charge breaking in among his escort and his charioteer wounded by a javelin at his side, turned his horses and fled, spreading panic among the hundreds of thousands that crowded the plain behind the battle line, spectators of the fight, compelled by the narrow ground to take no part in it, and now

startled by the sight of the King and his escort galloping wildly rearward. Corps after corps broke its ranks and joined in the flight, and the narrow plain was soon covered with the disorderly retreat of myriads who had not yet struck a blow.

Leaving the pursuit to some of his light troops, Alexander had meanwhile turned upon the rear and flank of the Greek hoplites. Assailed by the long pikes of the phalanx in front and by the Macedonian horsemen and hoplites in the rear, the mercenaries gave way, but some thousands of them still kept their ranks, and though the battle was lost doggedly fought their way eastward into the hills and made good their retreat. The Persian right towards the sea was in a hopeless position once the centre was broken. The battle was won, and won with trifling loss, and it only remained to follow up the broken army, slay the fugitives, and collect booty and prisoners. The Greek historians say that while the victors lost less than 600 men, more than 100,000 of the Persians were slain, mostly slaughtered like flocks of sheep without resistance in the pursuit. In many places more were trampled down in the panic than fell by sword or spear. Darius escaped through a pass of the mountains. Of his vast army all that remained as an organized force were 8000 Greek mercenaries who had been driven into the hills and promptly abandoned his cause.

Two years later, when Alexander had marched into the heart of Asia, Darius met him with another great army, another half-million of men drawn from many nations. He had failed on the narrow ground at Issus between the mountains and the sea, where numbers had proved useless. Here in the open plains of Arbela, in the great level of the Tigris, he hoped his armed multitudes would overwhelm the invaders. Alexander showed remarkable skill in the conduct of the battle. He formed his troops in the same array as before, but with a second line well to the rear from which detachments could advance and wheel out to



meet overlapping flank attacks from the long Persian line. A charge of war chariots was met by the active light troops in the Macedonian front shooting down horses and drivers or springing at the horses' heads and cutting the reins. The few that broke through the loose array of the light troops turned from the levelled spears of the Macedonian front and went harmlessly down the lanes left between the divisions.

While the chariots were thus displaying the helplessness of this primitive form of attack, Alexander moved forward his front line, not directly against the enemy's centre but diagonally towards the Persian left. The second line beat off an attempt to break in upon the Greek right, a feeble counter-attack. Meanwhile the charges of the Macedonian cavalry on the Persian left had led the enemy to reinforce that wing, drawing troops for this purpose from the left centre. Alexander marked the weakening of that part of the hostile line and broke through it with a fierce cavalry charge, while the phalanx came up against the Persian front. Before this combined onset the Persian centre began to give way, and then the whole line wavered and a general retirement began. As at Issus, Darius lost heart at the critical moment and turned his chariot in flight, spreading panic in the rearward masses of his great army. Once more thousands fled without having struck a blow, and nothing remained for the Macedonians but to complete the rout of the Persian army by hanging on the rear of the mass of fugitives and slaying all they could reach. A few hundreds fell on the victorious side; tens of thousands on that of the vanquished. Persepolis and Susa opened their gates to the conqueror. In three battles the Persian Empire had been destroyed.

Alexander died before he had consolidated his rapidly won conquests. His dominions were divided among his generals, and within two hundred years these fragments of Empire became the prey of a new military power that was bringing new methods of war into action, and building

up a military organization and a tactical tradition that rapidly made Rome the mistress of the ancient world. The legion met the phalanx at an early date in this new period of military history, and the legion conquered.

## CHAPTER IV

### ROMAN WAR—THE LEGION

“ Thine, Roman, is the pilum,  
Roman, the sword is thine,  
The even trench, the bristling mound,  
The legion’s ordered line,  
And thine the wheels of triumph  
That with their laurelled train  
Wind slowly up the shouting streets  
To Jove’s eternal fane.”

SO, in one of his *Lays of Ancient Rome*, Macaulay, in words put into the mouth of the seer Capys, describes with singular aptness the great features of Roman warfare. The military system that made a city of central Italy in a comparatively brief lapse of years mistress of an Empire over all the lands around the Mediterranean, is remarkable for the fact that it anticipated many of the methods of modern war, and practically applied principles that after the downfall of Rome were lost sight of for centuries.

Thus it is only in our own day that it has been generally recognized that for the soldier a certain amount of skill with the pick and spade is only second in importance to skill in the use of his weapons. The Roman soldier was taught to rely upon field entrenchments as his best defence, especially in campaigns against the ruder peoples of his time. The “even trench,” the mound, or rampart, bristling with palisades, formed even temporary Roman camps into fortresses, and for the permanent occupation of a district or province walled camps or military stations replaced these temporary entrenchments, and became the

sites of cities many of whose names still keep a record of their origin.<sup>1</sup>

Again, it was not till the time of the Napoleonic wars that European armies were organized in subsidiary "army corps" each complete in all arms, in fact each a smaller army, but this is just what the legion was. One is apt to think of it as a regiment, but such a comparison is misleading. The legion was a complete force of all arms—infantry, cavalry, artificers for working military engines, frequently an attached force of auxiliary allied troops, and always a transport train. This last was kept within moderate limits by the legionaries being required and drilled to carry each a considerable load, that would otherwise have to be conveyed on pack animals or wagons. Instead of the knapsack of modern times the Roman soldier carried his belongings, including several days' provisions, in a bundle (*sarcina*) suspended on a stick resting on the shoulder. When a rapid dash was to be made the soldiers were temporarily relieved of this burden in order that they might march faster and further.

In the earliest days of Rome the legion was the temporary levy of the citizens, who were classed according to their wealth and required to appear at the call to arms with an equipment corresponding to their class. The legion in those days included about a thousand heavy-armed infantry, a number of light-armed auxiliaries representing the poorer classes, and a small body of cavalry supplied by the very wealthiest. Through many centuries the Roman cavalry, never numerous, was recruited among the richer citizens, so that even in time of peace this class was spoken of as the *equites*, the "cavaliers," or knights. The numbers of the legion were gradually increased, till in the later days of the Republic and under the Empire it was

<sup>1</sup> In England many cities, towns, and even villages have names ending in *-chester*, which through the Saxon *caestre* represent the Roman *castra*, a fortified camp. "Chester" is the "Camp" *par excellence*; Winchester, the White camp; Colchester, the camp on the Colne; Ribchester, the camp on the Ribble, etc.

4000 to 5000 strong, though throughout the cavalry immediately attached to it was always 300 strong. Further mounted troops were supplied by the allies.

The internal organization of the infantry of the legion varied at different times, but throughout it was divided into subordinate bodies, or, to use modern terms, into battalions and companies. Thus, for example, a legion 4500 strong would be organized in three bodies of 1200 each, and a fourth of 600. In the battle formation the first line was formed of 1200 *principes*—first-line men—the youngest troops. Next came the line of 1200 men of older service, known as the *hastati*, or spearmen. The third line was made up of the reserve, veterans of long service, the *triarii*. There were besides 1200 light-armed men (*velites*) and 300 cavalry. Each class was subdivided into maniples or companies, 120 strong in the *principes*, *hastati* and *velites*, 60 strong in the case of the veteran *triarii*. Each company was commanded by a centurion, with a junior of the same rank as his lieutenant. In the cavalry the division was into ten *turmæ* or troops each of thirty horsemen. The field officers of the legion were six tribunes, who took command in turn. The men were divided into squads of ten each both in cavalry and infantry, a *decanus*, or chief of ten, acting as the non-commissioned officer of the infantry squad.

This elaborate organization had direct reference to the tactical methods of the legion on the battlefield. When the ordered lines were formed there were ten maniples in each usually arrayed with the men five deep. But the companies were usually not placed in immediate touch with each other. Small intervals were left in the front line, and behind these stood the companies of the second. For the whole idea of Roman warfare was something new, and a vital principle of it was to substitute for rigidity a flexible formation that would make manœuvring easy and rapid. The Greeks (and the other nations who had learned their tactics from Greek mercenary soldiers) depended for the

success of their attack on the pressure of a deep closely locked formation bristling with levelled spears. The phalanx was the highest development of these methods, and the phalanx was strong only in front, could not move rapidly, and was helpless on broken ground. The Roman relied on other methods that required a high fighting efficiency in the individual soldier.

The legionary went into battle protected only by a helmet without a visor, and with body armour coming down only to the waist, and made of a leather or padded sleeveless garment on which metal plates were fastened like scales. He wore no greaves on the legs, for there was a disposition to make the merely defensive equipment as light as possible. A square slightly convex shield was carried on the left arm. A short broad-bladed sword, almost like an exaggerated hunting-knife, hung at the right hip. In the right hand was carried a short heavy spear with a long pointed head.

This spear, the *pilum*, was not a pike. It could be used as such, of course—as, for instance, in keeping off the charge of hostile cavalry or the surging onset of a mob of barbarians. But this was not its characteristic use or purpose. The legionary was not a spearman, but a swordsman. As the legion closed with the enemy, and when its front was only ten paces from the hostile line, the spears were hurled in a volley in the faces of the foe, the rearward ranks throwing their spears over the heads of those in front. As soon as the spear was thrown the short swords were drawn and the legionaries closed with the enemy, while he was still staggering under the shock of the volley. There was no question of bringing to bear on the opposing line or column the pressure of a moving mass, as in the Greek attack. The close fight was the onset of the array of independently formed companies, each made up of skilled swordsmen thrusting and stabbing with their short weapons, and hewing their way into the enemy's ranks. Against such an attack enemies who relied on keeping off the charge with a levelled array of spears and shields, held by men



ROMAN LEGIONARIES CROSSING A BRIDGE OF BOATS  
*From the Trajan Column*

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standing shoulder to shoulder, were in dire danger of swift destruction, for the spearman was all but helpless once the short swords were at work in the midst of the array. If the first line of companies failed to break in, the second, coming up through its intervals, could renew the attack. The veterans of the third line formed a final reserve. The light-armed *velites* explored the ground in front of the advancing legion, drove in the enemy's light troops, and protected the flanks of the attack. There was a further resource against flank movements in the ease with which individual companies could be moved in any direction without disordering the general array, and in the presence of the veteran third line which could be sent rapidly to either flank.

This system of infantry tactics was a gradual growth. In the early wars of the Republic the Romans seem to have fought in a close array and trusted largely to the spear. The army that invaded Africa under Regulus in the First Punic War was defeated because the Greek mercenary Xantippus, knowing the weak points of the close-ordered array of spears, directed the Carthaginian attack against a flank. It was in the prolonged struggle of the Second Punic War that the new system was developed, in the years of warfare in Italy itself and in Scipio's campaigns in Spain.

This struggle with Hannibal was the turning-point in the destinies of Rome. It was once more a war between East and West, for the Carthaginians were men from the Syrian coast and of the Phœnician race, a race of sailors and traders whose fleets had made them masters of the Western Mediterranean. Like the Venetians of later days, they were so absorbed in trade and commerce that they relied for defence not so much upon levies of their own people as on the hired arms of mercenaries and the military service they could exact from tributary peoples. The army which their great leader, Hannibal, brought over the Alps into Italy was a mixed gathering of many nations. The Cartha-

ginians were the smallest element in its ranks. Spaniards and Gaulish tribesmen and Numidian horsemen made up its main strength, but these diverse elements were welded into one splendid fighting machine by the personal influence of one of the greatest commanders the world has ever seen.

The characteristic fighting methods of the legion had not yet developed. The tactics of Hannibal were those that his people had learned from Greek mercenary leaders. The charge of serried spears was the decisive stroke of the day, but with this was combined the active attack of swarms of light-armed infantry, the charges of born horsemen like the Numidian cavalry, and the more ponderous onset of the war elephants that were a characteristic feature of the Carthaginian armies.

The Roman regarded the Carthaginian as cunning and treacherous, and in the victories of the opening campaigns of Hannibal in Italy the consular armies were outwitted before they were defeated. The battle that made the invaders masters of northern Italy was fought on the Trebia. Hannibal was opposed by Scipio with a Roman army 40,000 strong. He can hardly have mustered an equal force. He allowed the enemy to cross the stream, opposing to them only a line of light troops which gave way as they advanced. The legions were pressing on with the sense of victory already won, when they were charged in flank by a picked force of 2000 infantry which had been hidden in the woods to their right, and at the same time 6000 Numidian and Gallic horsemen came thundering on their rear, after sweeping rapidly round their left. The rigid array then used by the legions made it difficult to meet these attacks, while still in action with the enemy in front, now reinforced by every available man of the Carthaginian army. The ranks of the legionaries were broken, and the persistent pursuit by the victorious cavalry turned the defeat into a hopeless rout, in which thousands were massacred.

The tactics of the ambush played a still larger part

in the victory by Lake Trasimene among the Tuscan hills when the army of the Consul Flaminius, some 30,000 strong, was destroyed within a few marches of Rome. Hannibal had outmarched and outmanœuvred Flaminius, and interposed between him and the capital. The consul with four legions was following him up, eager for battle, and the Carthaginian waited for him in "a place made by nature for an ambush," to use the expression of the Roman historian. It was on the north shore of the Lacus Trasimenus, the Lago di Perugia or Trasimeno of to-day, a broad sheet of water set in an amphitheatre of the Umbrian Hills between Cortona and Perugia. The road that runs along the lake side enters the hills to the north-west of it by a wild pass, within which a lateral valley, then dense with woods, runs up into the mountains. The road then runs for some distance between the lake and a range of rocky hills, after which it opens on to a stretch of fairly flat ground, a little plain of no great width. Beyond the narrow plain a bold spur runs out from the hills almost to the edge of the lake, forming a second pass.

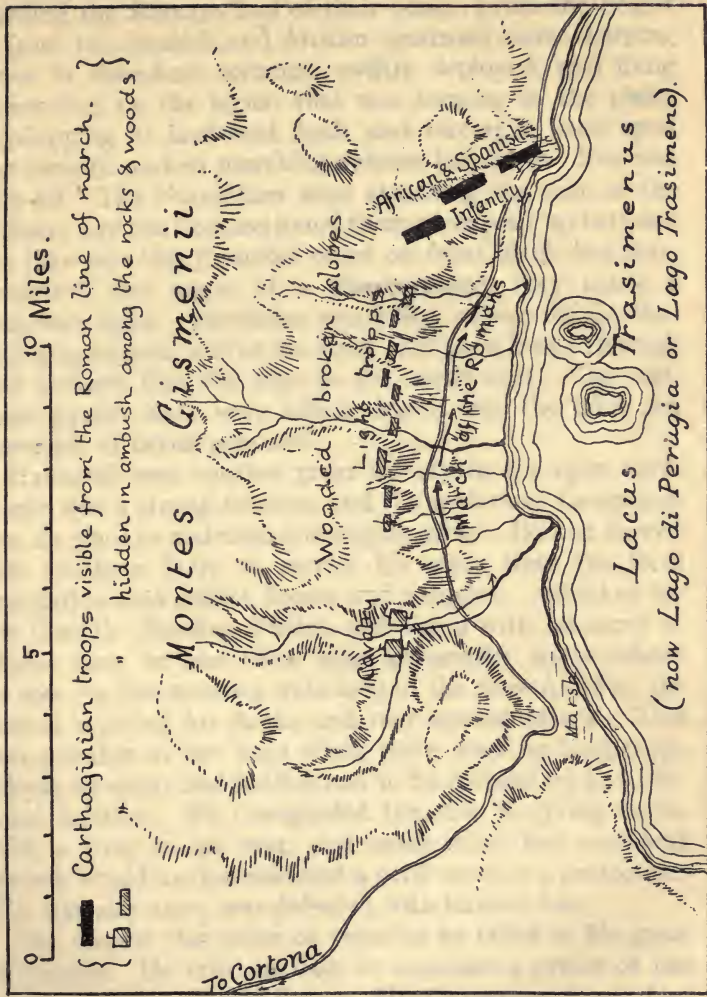
On the crest of this spur, which is visible from almost every point of the lake-side road, Hannibal posted his heavy African and Spanish infantry, men armed like the Greek hoplites and trained to the same tactics as theirs. In the early summer morning Flaminius broke up his camp outside the first pass and began to march into the hills. All that he knew was that Hannibal had occupied the bold spur that all but barred the road in front at the second pass. This much the Consul had learned the evening before, and he counted on being able to storm it with the spears of his legionaries. He felt sure that Hannibal was going to fight a defensive battle, relying on the strength of the position. As the mists cleared from the lake shore he saw on the height the flash of arms along the crest of the spur, and felt confirmed in his idea that it was there the day would be decided. Along the narrow way between the wooded hills and the broad expanse of the lake the legions, marching in

a closely serried column, crowded the mountain road. The light-armed troops had been pushed on to cover the deployment in the plain that was to be the prelude of the battle. So blindly confident was the Consul in his judgment of the situation, that he threw out no scouts to explore the woods and rocks that rose in a long broken slope on the flank of the marching column.

He had no idea that among the trees in the wooded valley that opened inside the first pass some thousands of the Numidian cavalry were standing by their horses, with wary sentinels out in front hidden in the rocks watching his progress. Nor did he know that all along the hill slope on his left the light troops of Hannibal's army were waiting in ambush, slingers from the Balearic Islands, African archers, Celtic spearmen from Gaul and northern Italy. They had look-out parties on the ridges above them, who, all unseen themselves from the lake side, could see plainly enough the Carthaginian array on the crest of the outlying spur. These vigilant sentinels were waiting for Hannibal's signal to begin the fight.

As the last of the Romans left the first pass and entered the narrow way between the lake and the hills, the Numidian horse mounted and moved down to close the pass behind the Consul. The light troops of Flaminius had now entered the plain, and, covered by their advance, the first of the legions was deploying for battle on the open ground. The rest were still tramping along the road. Out in front, with the morning sun at their backs, Hannibal's array of steel-clad warriors showed plainly, the only enemies whose presence the Consul suspected. He believed he had the advantage of numbers on his side, and that it was for him to give the signal for battle as soon as all his fighting men were out of the narrow way.

But Hannibal meant to attack, and now the moment had come. A signal from the spur, an order passed from group to group along the hills above the lake, and then rock and wood rang with the wild shouts of the Cartha-



BATTLE OF LAKE TRASIMENE  
 (Type of the ambushade or "stratagem battle")

Scale of Miles  
 0 10 20 30 40 50 60 70 80 90 100



PLATE I  
 THE GREAT RIVER SYSTEM OF THE WESTERN UNITED STATES  
 SHOWING THE COURSE OF THE RIVERS AND THE TERRITORIES DRAINING INTO THEM

ginian light-armed rushing down from their ambush upon the marching column of legionaries. The battle-cry, the shower of stones and arrows that followed, were the first warning the Romans had of their peril. From the height in front the Spanish and African spearmen came charging down in close-knit columns, swiftly deployed, and flung themselves on the legion that was forming in the plain, overlapping its landward flank and forcing it back upon the densely packed marching column behind it. Nor was this all. The Numidians were attacking the rear of the column, and the Romans found themselves pent up between the lake and this threefold onset on front, flank and rear. Surprised and taken at a disadvantage, they made a desperate fight. Flaminius was killed among the Carthaginian spearmen, and of his army only 6000 broke through and escaped into the hills to the north-west. The rest, some 24,000 men, were killed, driven into the lake and drowned, or taken prisoners.

Hannibal won another great victory in the open field. Rome was a strong fortress, and the malarious Campagna was no place to maintain a besieging army. He had moved into southern Italy to recruit his army from the local population and collect horses and supplies. Attacked by the Consuls Æmilius Paulus and Varro with an army of 80,000 men, he met them with his smaller army—about 30,000—in line across a wide loop of the river Aufidus, the stream securing his flanks and rear against attack. This was possible in the days when there were no long-range missile weapons and battles had to be decided by hand-to-hand fighting. He disregarded the risk of giving battle with a river in his rear, and made what less confident leaders would have considered a peril serve as a protection. The consular army was defeated with terrible loss.

But despite this series of victories he failed in his great enterprise. He tried in vain to organize a revolt of the Italian peoples against Rome. His Government sent him no reinforcements. The auxiliary army brought from

Spain by his brother Hamilcar was cut to pieces in northern Italy. With his veterans of the early campaigns dwindling in numbers year by year, he maintained himself in the south. The Romans failed to expel him from the country by any direct action. He was recalled by his own Government, when Africa itself was invaded by a Roman army and Carthage was in danger.

This invading army had already, in a long series of victories, destroyed the Carthaginian power in Spain. It was in these Spanish campaigns that its commander, Scipio, elaborated the tactical system that made the legions invincible, adopting instead of the massed attack the flexible movement of successive lines of independently formed companies, making the spear a missile weapon, and relying on the short broad-bladed sword for close combat.

At Zama, the decisive battle that ended the war, Scipio's legions were formed on the new system, and had the help of the Numidian cavalry that had been allied with Carthage at the earlier period of the conflict. Hannibal brought into the field a mere remnant of his old veterans, and a mass of half-hearted mercenary troops, and new levies that had neither training nor experience of war. The result was an easy victory for Scipio, after which Carthage sued for peace on any terms.

The defeat of Carthage opened for Rome the way to conquest over all the countries round the Mediterranean. Her one really formidable rival had not only been defeated, but so permanently crippled by failure that the Carthaginian power was no longer a serious obstacle to Roman ambition. And during the conflict not only had the new method of warfare been evolved, that made the legion the most efficient of fighting organizations, but the change had taken place from mere temporary levies of troops for a single campaign to the permanent embodiment of armies of professional soldiers. A citizen militia could never be the instrument of widely extended conquest. For this a regular army was a necessity, and the long war and the



need of garrisons for the newly conquered provinces made the permanent organization of the legions an essential feature of the Roman system, a feature destined eventually to produce the evolution of a despotic Empire in the days when the veterans became more loyal to their own victorious chiefs than to the civil Government, to which they nominally owed allegiance.

The history of Roman war from the downfall of Carthage to the rise of the Empire divides itself into a period of rapid conquests in the Mediterranean lands, followed by a second period in which, while further provinces were reduced under the sway of the Republic, there was a series of hard-fought civil wars between leaders who had succeeded in substituting among their soldiers a personal devotion to their own interests for traditional loyalty to the State. A combination of astute diplomacy and successful leadership in the field made the Romans at an early date masters of the Hellenized East. The military part of this conquest cost the Roman generals no great effort. The legions formed in the long struggle with Carthage were opposed to inferior Greek armies largely composed of the mercenary element, and badly commanded. In the actual shock of battle the legion showed itself a better fighting organization than the rigid phalanx. Formidable only on favourable ground and where the unbroken hedge of levelled pikes could be brought to bear on a frontal attack, the phalanx was weak against the enveloping attack that could be so readily developed by trained soldiers like the legionaries, organized in a number of companies that were easily moved from point to point of the battle line, and whose leaders did not stake everything on maintaining the rigid shoulder-to-shoulder array of Macedonian battle. Even the terrible front of the phalanx was liable to be gapped here and there by the Roman charge, the rush of swordsmen who opened the way to the hand-to-hand fight with their volleys of heavy spears. Once the legionaries broke into the line anywhere the fate of the phalanx was sealed. The long

pike was now an encumbrance rather than a defence to the phalangite. The short broad-bladed sword of the legionary was the very weapon for hewing a path of blood through the dense array. The Roman might in such a conflict use that word of a Barbarian chief of later days, "The thicker the grass, the easier we shall mow it."

Roman met Roman in grimly fought battles in the civil wars, and the legionary became more than ever a professional soldier, no longer an armed and loyal citizen. The numbers of men in each legion were increased till the strength of the organization rose to over 6000 men, without counting the auxiliary light troops who were often as numerous. To facilitate command and manœuvring the companies or maniples were grouped in larger bodies, and the heavy-armed infantry that formed the main strength of the legion was organized in ten cohorts or battalions, each of 500 to 600 men. The legionaries were no longer, as in the earlier days of the Republic, enlisted for a single consular campaign. They were soldiers for the whole of the active years of youth and early middle age. When they retired from the ranks as veterans they counted upon receiving a grant of money and an allotment of land. In Italy this was provided out of the confiscated possessions of the defeated party in the civil wars. In the provinces outside the peninsula there was abundance of unallotted land round the frontier garrisons and the cities of the Roman colonists. The veteran set up his home on his farm and became a military colonist, a reservist who would for years to come be a useful fighting man in case of a general call to arms to meet a Barbarian raid, and some of whose sons would be sure when the time came to enlist in the nearest legion.

Every legionary was supposed to be a Roman citizen. Those who had not this status could enlist only in the auxiliaries. But Roman citizenship was now the privilege of nearly every city under the dominion of the Republic, and in the ranks of the legions were found men of all the

Mediterranean races. Long service permitted a very elaborate training. In winter operations in the field ceased for a while even in time of war, and the legions were sent into standing camps or garrison towns. But whenever they were not actually campaigning the men were engaged for part of each day in drill and military exercises. Even the veterans were not exempt. The spears carried in these peace manœuvres were made twice the weight of those employed in battle, and in the marching exercises the soldier carried a heavier load than when he was on active service. The weight-carrying power of the legionary was a very important element in his efficiency. Besides his arms the Roman soldier carried cooking and entrenching equipment and provisions for several days. This reduced the baggage train and rendered the legion an exceptionally mobile force. And the Roman soldier was a worker as well as a fighter. He fortified the frontier cities and towns, and constructed the roads that linked these outposts with the provincial capitals and with Rome itself, and made the rapid and regular movement of reinforcements to any threatened point a matter of certainty.

Against wild hordes of semi-barbarous tribesmen, ill led, badly armed and without any supply organization that could enable them to keep together for more than a short time, the legions were practically invincible. Until the days of the decline of the Empire there were only two great disasters to the Roman arms, the defeat of Crassus in the last days of the Republic, and that of Varus in the early days of the Empire.

In the former the legion failed because it was opposed to an enemy who used methods of warfare so unlike anything the Romans had yet encountered that they had no means of effectually meeting their opponents. Marching from northern Syria against the Parthians, the army of Crassus, the chief strength of which was its heavy-armed infantry, found itself surrounded and harassed by troops of mounted archers attacking in irregular swarms, riding

up to bowshot and letting fly their arrows, and retiring before every attempt to close with them, but retiring only to come on again. They were such skilful horsemen and bowmen that even in flight they were dangerous, for the Parthian if pursued could drop the reins on his horse's neck, and half-turning in the saddle, with both hands free, send an arrow back at the nearest pursuer. The few light troops were no match for these multitudes of swiftly moving enemies. The handful of cavalry that accompanied the legions, mounted as they were on horses unused to the torrid sun of the wide plains extending to the Euphrates, only exposed themselves to useless losses in their futile attempts to close with the lightly equipped and better-mounted Asiatic horsemen. The legion could not put forth its characteristic strength against such enemies. It was as helpless to drive them off as a man is to disperse a swarm of worrying flies. And these Parthian flies could sting effectually. Worn out by unceasing attacks, and with their numbers continually thinned by the Parthian arrows, the legionaries lost heart, and with their supplies all but exhausted, and their march encumbered by crowds of sick, wounded and broken-down men, all efforts at resistance came to an end, and, after an ineffectual attempt at retreat, what was left of the unfortunate army was destroyed at Carrhæ, the modern Haran. Only 500 horsemen escaped the disaster. The rest were killed, made prisoners and dispersed. For many a year after the Parthian name was a terror to Rome.

The legions of Varus were destroyed among the woods, rocks and morasses of a South German forest, because their incapable leader allowed them to be surprised on the line of march, when strung out over miles of difficult ground, and encumbered with a huge baggage train. They were beaten and destroyed in detail by a gathering of the warlike Teutonic tribesmen. And the successful attack was directed by a leader who had served as an auxiliary in the Roman armies, and learned the art of war in that good

school. Arminius (Hermann), the victor of the Teutoburger Wald battle or ambush, was the first of many Barbarian chiefs who learned to fight the Romans by first serving with them.

The Roman Empire at the height of its power maintained a smaller regular military establishment than the force kept in barracks in time of peace by any one of the great Powers of Continental Europe at the present day. The normal frontiers of the Empire were the Atlantic Ocean on the West, with Britain forming an outlying province (including England, Wales, and part of Scotland), the northern boundary here being the Roman Wall from sea to sea. The Continental boundary was marked by the Rhine and Danube, with a barrier of rough fortifications marking the frontier between the two rivers. In Asia the Empire held Asia Minor and Syria, the frontier being formed by the margin of the desert lands and steppes that extend to the Euphrates. In Africa the Romans held the lower Nile valley with detached posts in Nubia. The rest of northern Africa was Roman as far as the borders of the great desert. The garrisons were most numerous along the Continental frontier in Europe, where they had to keep watch against formidable Barbarian peoples. The system of defence was the posting of a number of legions in permanently fortified camps, most of which developed into walled cities. In case of a Barbarian incursion reinforcements were moved into the threatened district from points where there was no danger for the moment. This system secured the frontiers up to the time of that strange general movement of the tribes of Eastern Europe and Central Asia towards the West, which the Germans call "the wandering of the nations." The human tide then came pouring over all the Continental frontiers at once, and the system of concentrating on one point to meet a local danger was no longer applicable.

But by this time other causes had contributed to sap the power of the legions. The defeat of Varus in the first

century was a presage of what was to come in the fourth and fifth. The vanguard of the Barbarian onslaught was largely formed of men who had learned the arts of war from the Romans. In the prosperous days of the Empire the citizens of the capital and the great provincial cities had, to a great extent, given up all ideas of taking part in the military defence of the Empire. At most they served as officers, or in certain picked corps like the legions that formed the guard of the Emperors. The rank and file of the army was more and more recruited from the servile class and from warlike non-Roman races. The purely mercenary element increased each year. New legions of reduced strength, usually about 1000 rank and file, were formed entirely of Barbarian recruits. These returned later to their homes with a useful knowledge of Roman arms and tactics, and in the tribes that lived along the frontiers there was an ever-increasing proportion of these veterans and their pupils; and as the tribesmen became more civilized and more prosperous they accumulated a store of arms and armour, and were no longer the rude mobs of half-armed fighting men that the legions had destroyed with little risk or difficulty in earlier campaigns.

The spear was the favourite weapon of the non-Roman peoples, and this may have been the influence that led to the sword being less used in the legions of the later Empire. The weapon even for hand-to-hand conflict was now a short pike. But there was a still more important change in fighting methods that affected the course of battle tactics for many centuries. For a thousand years the civilized European soldier had fought almost entirely on foot. The cavalry of the legions had been a mere handful in the great days of Roman conquest. The infantry had always dealt the decisive blow and formed the main strength of the Republican and the early Imperial armies. In the later centuries of the Empire the cavalry became more numerous and more important. Bodies of mounted troops were formed to deal with raiders on the frontiers,

and with the advent of hordes of mounted Barbarians among the enemies of the Empire, it became more and more necessary to have cavalry to meet them. In the eastern part of the Empire this development went on most rapidly. There the most formidable enemies of the Roman name were races from the steppes of western Asia, and the great plain of what is now European Russia. These wide stretches of level land and abundant pasture have always been the nursery of tribes of wild horsemen. What the Cossacks were in modern times, Hun and Goth were in the days of Rome's decline. In the eastern part of the divided Empire we find more and more reliance being placed upon cavalry as a means of defence. There was a reversion to the tactics of the armies that had fought a thousand years before under the banners of the Babylonian kings. Bodies of heavily armed troopers and mounted archers were raised to meet the wild horsemen of the steppes, and archers and men-at-arms learned to work together, the bowmen meeting the desultory skirmishing attacks of Barbarian bowmen, and the heavy cavalry seeking the opportunity of riding them down.

In the West the age of the heavily armed horse soldier, whose best type was the mediæval knight, came much more slowly. Here the tradition of the legion lived on long after the legion itself had declined, and though horsemen had become a more important element in frontier defence, the need of great masses of cavalry was less felt, because the first great movements of Barbarian peoples across the Rhine were those of tribes who were mostly accustomed to fight on foot. The mounted hordes from the eastward came after these had broken down the barriers. Of the actual battles of the period we have generally only scanty details. Often whole districts passed from the sway of the Empire without the arbitrament of a "stricken field." What happened was that the mercenary troops in garrison simply abandoned their allegiance to the falling Empire.

In the great change that came over Europe with the inroads of whole peoples into the territories of the vanished Empire, the old tradition of the phalanx and the "legion's ordered line" was lost. The splendid tradition of disciplined valour had long been on the wane. It disappeared in the chaos of Rome's downfall, so far at least as the nations of the West were concerned. Permanent armies trained for war in long intervals of peace no longer existed. The battles of the early Middle Ages were fought out with more primitive methods. The armies that met in these engagements were more like tribal levies than regular forces. Kings and chiefs had their personal following, and many men had in one way or another considerable experience of warfare, but as in earlier days armies were largely made of improvised soldiers, who, whatever their skill in arms, learned in war or in the chase, had no permanent organization or traditional discipline, and were likely to fight in the manner of armed mobs. This is perhaps why we have so little intelligible detail of some of the greatest battles of the time. It would be impossible, for instance, to set forth the battle order or trace the development of the combat even in such an epoch-making engagement as the three-days' battle near Tours, in which Charles Martel saved Western Europe from Moslem conquest by defeating the invading host of the Moorish Sultan Abderrahman. The fact is that where there is no recognized tradition of tactical methods and organization, there generally are no annalists capable of describing the confused course of a battle, and the record becomes a mere statement of the result and of the slaughter that took place, or, if the narrative is amplified, it is to tell the almost legendary exploits of some popular hero, or to indulge in commonplace phrases that might apply to hundreds of similar events.

With the disappearance of disciplined infantry, and the coming into Europe of races that almost lived in the saddle, the horseman became a more and more important



element in war. The typical soldier of the classical period had been the heavily armed foot soldier—the hoplite, the phalangite and the legionary. The typical soldier of the Middle Ages was the heavily armed horseman, the knight and man-at-arms. Chivalry in the mere meaning of the word meant horsemanship, but had, of course, another meaning in actual use. It came to signify the qualities that belonged to the ideal knight, the horseman who was "a soldier and a gentleman." And the race that came to the front in these days of knightly warfare and won renown in hundreds of wars in Europe and Western Asia were the Normans. Something must be said of the way in which battles were fought and won in the centuries when the Norman knight was the embodiment of European chivalry.

## CHAPTER V

### MEDIEVAL WARFARE—THE PERIOD OF THE MOUNTED MAN-AT-ARMS

**W**E have seen that it was at a comparatively late period that mounted troops were used in war in any considerable numbers by Greek or Roman. Among the new peoples who divided Europe among them after the fall of the Empire there were many races which were still unaccustomed to the use of the war-horse; and others, on the contrary, who almost lived in the saddle. The Ostrogoths who fought as the allies of Rome against Attila at Châlons were a nation that mostly fought on horseback. So were the Magyar tribes who occupied Hungary. In France, as a result partly of the Ostrogothic invasion, partly of the military usage of the later Empire, there was a continuous tradition of horsemanship, but the conquering Franks, who became the dominant race towards the close of the fifth century, were a nation of foot soldiers. They learned horsemanship from their subjects, and seem for a long time to have been anything but apt pupils. They clung to their old method of fighting on foot, attacking in a mass and using as their favourite weapon the heavy battle-axe, which could be either swung with both arms or hurled in the face of an opponent.

Men of the German races in the early Middle Ages were mostly averse to fighting on horseback. Cavalry never appeared in the armies of the heptarchy, and even under the later Saxon kingdom, though thanes and earls used

horses on the line of march, they dismounted to fight. The Danish armies in the wars of England and Ireland were entirely composed of infantry. But strange to say, it was one of these piratical Scandinavian races that took the lead in the introduction of cavalry as the dominant arm on the medieval battlefield. The Northern raiders who in the tenth century swept the coasts of France along the Channel and the Atlantic seaboard, and penetrated far into the country by ascending the Seine, the Loire and the Garonne, found themselves when they landed in districts where there was an abundance of horses. Perhaps it was the sailor's proverbial readiness to "try his hand at steering a horse" that led them very soon to make the experiment of enlarging the scope of their raids by seizing horses, mounting their landing parties, and then pushing many a mile inland from some temporary base where their fleet lay in river or estuary.

The first raids on the fertile northern lands of France were followed by more and more important expeditions, till the movement culminated in the permanent occupation of Normandy by the Northmen under Hrolf or Rollo. By the treaty with the French King that recognized him as Duke of Normandy, Rollo agreed to embrace Christianity with his people. The Northmen in the new Norman land thus entered into the established system of civilized Europe. Other settlements of the same race were effected on the Breton coast and eastwards in Flanders. But though he had abandoned his raiding on the sea, the Norman with a new creed, a new language, and new surroundings still kept his adventurous spirit. In Normandy, always a land where horses were plentiful, the new lords of the duchy became a race of skilled and daring riders. The Norman fought by preference in the saddle. His infantry levies were supplied by the subject people among whom he ruled. In the second century after the settlement in northern France the Normans began a career of conquest. The Norman horseman was the best fighting

man of two centuries of frequent war. Against half-armed burghers and peasants fighting on foot the mail-clad rider with his long lance and sword was for a while invincible. In North and South new kingdoms were formed by Norman valour. Duke William made himself master of England. Guiscard made himself the ruler of southern Italy and Sicily. Then North and South combined in the great movement of Christian Europe against the Moslem East, and in the wars of the Crusaders the Norman knighthood was to the rest of the armed power of Europe what the point is to the spear.

Once only during their first career of conquest the Norman knights and men-at-arms found themselves opposed to infantry that was capable of standing up doggedly against their iron charge. This was at Hastings, the battle that made Duke William King of England. The fight on the Sussex downs has been so often and so fully described that there is no need to tell the story again. But certain features of it may be noted here. The best of the Saxon array fought with the weapon that had been used by the ancestors of their Norman opponents, the long-handled Danish battle-axe. They held together against the charge of the Norman spears, and when the rush was brought to a standstill by the mere weight of the stolid mass against which it was driven, the axe was used effectually to bring down horses and men. Repulsed in his first attacks, William broke up the Saxon array, first by luring the axemen from their position by pretended flight, and falling upon them when they were dispersed in pursuit, and secondly by bringing his archers into action and thinning the ranks of the defenders of Senlac Hill, who had no means of replying to the arrow shower. When the Saxons had lost heavily in this way the final charge of cavalry was successfully driven home. It is curious that although in this instance there was a successful combination of what we would now call fire tactics and shock tactics—the arrow shower alternating with the charge of the mailed horsemen—this

seemingly obvious plan of winning battles was seldom resorted to in the warfare of the following centuries, and in the earlier battles of the Crusades the want of archery nearly brought the whole enterprise to disaster.

At the beginning of the Crusading period the heavily armed horseman, the knight and man-at-arms, represented the typical fighting man of European battlefields. The foot soldier counted for very little in war. One age of the importance of infantry had passed away, others were yet to come. But at the close of the eleventh century and the opening of the twelfth the estimation in which infantry was held was at the lowest. The foot soldiers were the servants of the mounted troops, their grooms and armourers, the escort of their baggage train, their hewers of wood and drawers of water, the watchers of the camp, the men who worked the engines and erected the palisades during a siege.

The knights and their train of mounted men-at-arms were thus the fighting force for the battlefield in the earlier campaigns of the Crusades. Armour had not yet developed into the complete panoply of plate and mail that at a later date overweighted both horse and man, but the Crusaders were fairly heavily armed. The knight wore over an under garment, often thickly wadded, a coat of mail, with a helmet from which a hood of steel links descended to guard the neck and shoulders. The legs were protected with plate armour, a shield hung from the left shoulder, spade-shaped, and made of wood strengthened with leather and studs of iron. For weapons the knight carried a long lance, and wore sword and dagger, and a battle-axe or mace often hung in front of the saddle. The horse that carried this heavy load was selected for strength rather than speed, and probably was incapable of anything like a gallop. The Crusading chivalry charged at a sharp trot.

Splendid fighting men were these soldiers of the Cross. The highest praise is due both to the endurance they displayed in long marches under the fierce sun of Asia and

amid unfamiliar and difficult conditions, and to the desperate valour they displayed in the battles, fought for the most part against superior numbers of enemies inspired with the reckless courage of Moslem fanaticism. The armies that opposed the Crusaders were better armed and led than the wild hordes that more than once brought a British force perilously near to defeat in our own wars of the Soudan. And the Crusaders had not the superiority that modern weapons gave to our men in these desert battles. They had to meet the surging rush of swords and spears with the same weapons, and their heavy armour, while it gave some protection, tended also to make them less active in the hand-to-hand conflict with more lightly equipped enemies.

In the first great battle of the Crusades the Western chivalry had another difficulty to contend with. On European battlefields they had been accustomed to ride down the ill-armed infantry of the day, wherever these tried to stand up against them, and in engagements with hostile cavalry they met opponents who were eager as themselves to come to close quarters. Here, however, in the heart of the wide uplands of Asia Minor, they had to encounter tactics against which for a while all their familiar battle methods were unavailing. It was only a fortunate chance that saved them from destruction.

The great battle took place on 1 July, 1097, near the ruins of the old city of Dorylæum. The Crusading army had entered Asia by crossing the Bosphorus and the Sea of Marmora, and after capturing Nicæa was advancing diagonally across Asia Minor to reach Syria and Palestine. When they crossed the Bosphorus they are said to have numbered 100,000 horse and 600,000 foot. The numbers were probably exaggerated, but it was certainly a huge army. It was made up of many nations, mostly of those who had passed under the rule or influence of princes and barons of the Norman race. There was a multitude of noble leaders of the various contingents, but though these met as equals

at the councils of war they had sufficient military instinct to understand that in the day of battle a single mind must give the direction.

The army was divided into two great columns of march, each encumbered by an enormous baggage train. They moved on parallel lines a few miles apart. The right or southern column was under the command of Godfrey de Bouillon, the chief of a principality that included some of the border lands of the France and Belgium of to-day. The northern or left column was commanded by Bohemond, the son of Robert Guiscard. His father had made himself master of Sicily, southern Italy and Malta, and carried on many wars against the Greek Empire. Bohemond had fought as a boy and a young man in his father's wars, and though still in the prime of life was a veteran of many campaigns. At this stage of the Crusade he acted as commander-in-chief of the whole expedition.

But with all their experience of war the Crusading chiefs had not learned what are now recognized as elementary precautions on the line of march. The heavy-armed cavalry were kept massed together in the front of each column. There were no light horsemen scouting far in front, and no steps taken to keep up communication between the two columns. The country was a stretch of open rolling downs, sun-baked at this time of the year and affording scanty forage for horses and mules. The march would have been impossible but for the streams and little rivers in the hollows of the downs, that gave water for man and horse and kept their margins green enough to supply some scanty forage for the latter. A Roman road, long unrepaired and often little better than a slightly marked track, guided the march of the left column. Godfrey de Bouillon with the right column was moving on a roughly parallel line seven miles to the southward.

In the afternoon of the last day of June—the eve of the battle—Bohemond's vanguard had been harassed for a while by bands of wild Turkish horsemen. These scattered

into a moving swarm of skirmishers, and riding up within bowshot, dropped the rein and, guiding their horses with pressure of heel and knee and sway of body, had both hands free for the bow and arrow. Some of the Crusaders rode out, lance in rest, to attack them, but could never overtake them, as they wheeled and galloped away, some of them turning in the saddle to send back arrows at the pursuers—just as their kinsfolk of earlier days, the Parthian horsemen, had shot down the pursuing cavalry of Crassus.

The march had hardly begun next day when the left column was attacked by a huge army of these mounted archers. Bohemond, leaving his foot soldiers to guard the baggage and tents, formed his knights and men-at-arms in battle order, and expected to decide the day by one victorious charge. But the Turkish horsemen swept along the front of the Crusaders in eddying clouds of skirmishers, loosing their arrows as they rode, and it was plain that they would easily elude the shock of a charge and come sweeping back to harass the knights again. So Bohemond, not without some difficulty, kept his line halted and waited in grim patience for the moment when the Turks might be encouraged by impunity to crowd upon his front, and so offer an object for a massed charge of the Western lances.

Part of the Turkish host rode round the line, drove away the guards of the camp in panic flight, massacred many of them, and then began to plunder the baggage train. Bohemond was too fully occupied to send any help to the hapless infantry and camp followers. The Turks in his front kept to their worrying tactics, but after the first hour of patient endurance it was impossible to prevent local charges of the men-at-arms being made here and there. All these attacks ended in failure. The Turks fled for a moment, then gathered round the isolated bodies of their pursuers, shot their horses and killed some of the men as they tried to regain the lines on foot. A steady advance of the whole line was attempted, but the Turks only fell



back before it, resuming their attacks as soon as there was a pause in the advance.

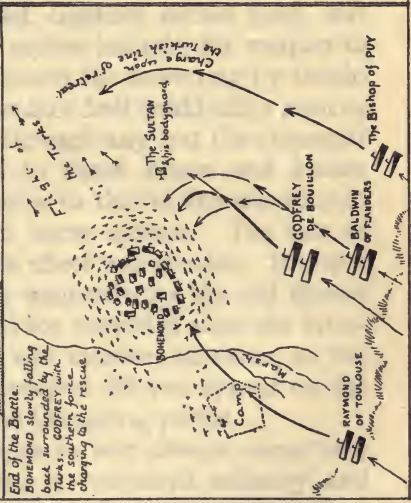
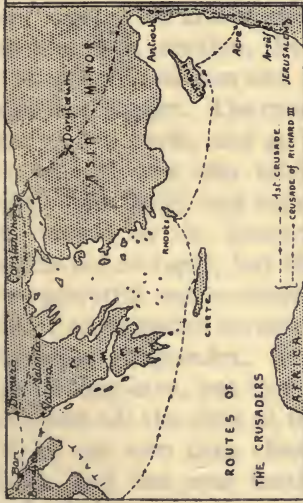
Few men fell to the Turkish arrows, but numbers of horses were killed or received wounds that disabled them or made them uncontrollable with pain and fright. After three hours of this harrying attack the situation of Bohemond's army became serious, and disaster seemed imminent. Wearied and discouraged, exhausted with the long hopeless conflict under a semi-tropic sun, and with their losses increasing as the day went on, the Crusaders began to lose heart. They no longer kept their first order, but the wings of their array were giving ground and falling back under the attacks of the enemy on both flanks. By noon the line had become almost a circle, and the men were huddling together so that soon the army would be nothing more than a great mob of mounted and dismounted men. Round the margin of this mass the Turks pressed closer and closer, still showering their arrows into the crowd of horses and men. Here and there a charge drove them back for a moment, but they closed in again.

But then came deliverance—rapid and complete. Messengers had been sent to find and call up the other column. Suddenly over a ridge of ground on the southern verge of the battlefield came flash of armour and flutter of pennons. The Turks were so intent upon their prey that they did not notice the arrival of Godfrey of Bouillon's array till the knights were actually charging down upon them. The charge drove through the archers, and the Turks were caught between hammer and anvil. As Godfrey thus joined hands with Bohemond, three more "battles" or columns of the Western chivalry passed the ridge. On the left Raymond of Toulouse, with the knights of Gascony, Guienne and Provence, spurred through the camp and charged the Turkish right. In the centre the Count of Flanders with his Northerners followed up Godfrey's charge. Far to the right the warlike Bishop of Puy brought up another "battle" of eager lances, and fell upon the

flying panic-stricken enemy, making any attempt to rally impossible. With their tired and heavily weighted horses the victors did not try to pursue the broken enemy. They were content with having saved Bohemond from imminent destruction. The collapse of the Turks was characteristic of Asiatic armies of old days. They seldom or never displayed the dogged power of stubborn resistance that has so often secured victory for the European in the most desperate of circumstances.

Dorylæum was an epoch-making victory because it marked the close of a period in which cavalry was regarded by European soldiers as the one arm for the battlefield. A change began from that day, at first it is true very slowly, in the Crusading armies and then under their influence on the battlefields of the West. It was recognized that the armoured horseman was not the only essential element in the battle line. The foot soldier began to take a position of ever-increasing importance, and it was seen that close hand-to-hand conflict was not everything. Missile weapons, or as we would now say "infantry fire," became an element of military power.

Apart from tactical reasons, the Crusaders soon found themselves forced to rely upon infantry to complete their battle array, from the mere fact that by the time they had marched across Asia Minor and entered Syria very few of the horses they had brought from Europe remained alive. These could not stand the exposure to intense heat by day and a rapid fall of temperature by night, nor accustom themselves to the very inferior and completely different kind of forage they found on the Asiatic uplands. The Crusading cavalry would have been reduced to a mere handful, only that they were able to remount some thousands of men on horses collected from the country or captured from the enemy. The men-at-arms who could not be thus remounted had to serve on foot, and this alone was enough to increase the importance of the infantry arm. The best of the leaders also recognized that the cavalry



**End of the Battle**  
 Bohemond slowly falling  
 back surrounded by the  
 Turks. GODFREY with  
 the sword forms  
 a charge to the rescue



DORYLAEUM, A.D. 1097. July 1st  
 ARSUF, A.D. 1191. Sept. 7th  
**BATTLES OF THE CRUSADES**

...the ... ..



...the ... ..

MAP OF THE MEMPHIS AREA

Scale: 1 inch = 10 miles

could not act without its support. Closely formed bodies of foot, armed partly with spears partly with missile weapons, would form a useful protection against the onsets of the Asiatic horse archery, and a barrier behind which the cavalry, now greatly reduced in numbers, could await a favourable opportunity for charging.

The missile weapon adopted was the cross-bow, already in use in siege warfare. It was a direct descendant of the old Roman *balista*, a siege engine used for throwing heavy six-foot darts. It was to the *balista* what later on the musket was to the cannon. The cross-bow was made up of a stock three to four feet long, with a short bow of springy steel fixed across it at one end. At the other was a small winch. The archer, holding down the bow end of his weapon by placing his foot on a projecting flange or in a metal bridle, bent the bow by winding up the winch, after hooking the cord coiled on its barrel to the bowstring. When the bow was bent it was secured in position by a catch and trigger. The "bolt," an arrow about eighteen inches long, was then placed in position, the archer brought his weapon to the shoulder, took aim and loosed the bowstring by touching off the trigger. The cross-bow bolt could kill a man or horse at 200 yards, and go through any but the strongest armour. It was also used to shoot stones and leaden bullets. Its range was superior to that of the short hand-bow carried by the Eastern horse archers. The rate of fire was not so rapid, but the effect was greater. It was a more powerful and accurate weapon than the old Brown Bess or any musket invented for centuries after the introduction of gunpowder. It was inferior, however, to the English long-bow, but this weapon did not appear on the battlefield till the close of the Crusading period.

Until our own time changes in war always came very slowly, and the new tactics of combined infantry and cavalry action and the use of missile weapons as well as of the shock tactics of the charge, obvious as it all seems to us, found its way very gradually into the Crusading

armies. As an example of the combination of the new methods with the consummate leadership of a great soldier, we may take a battle fought nearly a hundred years after Dorylæum—Richard Cœur de Lion's victory over Saladin on 7 September, 1191, in the fight near Arsûf on the Syrian coast, about fifteen miles north of Jaffa. King Richard, after taking Acre, was marching southward by the coast road, with an army composed of his own English, Norman and Angevin levies, contingents from other nations including the French under the Duke of Burgundy, and the knights and men-at-arms of the two military Orders of the Temple and St. John of Jerusalem. The Crusaders had now learned the use of infantry, and two-thirds of the army marched on foot, and the infantry included large numbers of cross-bowmen. The Templars and Knights of St. John had also with them mounted archers, specially trained for warfare with the Turks. The army marched in three parallel columns. Nearest the beach were infantry with the baggage. On the land side of the road was another column of infantry formed so that on facing to the left they stood in close battle array. Between the two infantry columns were the mounted men formed in twelve "battles" or separately organized commands. The van and rear were entrusted to the Templars and the Knights of St. John, on account of their long experience of Oriental warfare.

On the land side of the road the ground, broken in places, rose in a gentle slope to the margin of the great forest of Arsûf. Under cover of the woods Saladin was moving with his army, and early in the day he sent his mounted archers to attack the Crusaders. He meant to harass them for hours, gradually increasing the force of the attack, pressing the rear-guard in order to delay it and produce a gap in the line of march, and then at last hurling his final onset upon the enemy exhausted by hours of desultory fighting and weary marching under a burning sun.

So the swarms of mounted bowmen closed upon the

Crusaders. But it was not as it had been at Dorylæum a century earlier. Bohaëddin, the Arab historian, who was present, tells how the flank-guard of European infantry moved "like a wall," never leaving the least gap in its ranks, regardless of the arrow flights. Here and there a man fell, but their leathern and quilted jackets protected most of them. Bohaëddin noticed some of them trudging along with five or six arrows sticking in their rough armour. But it was no passive defence. Along the line the cross-bowmen were shooting coolly and with deadly effect.

Gradually the attack upon the rear became fiercer and fiercer, as more and more of Saladin's horse were launched against it. Amongst them were men from many countries of his rising Empire, Turks like those who had fought at Dorylæum, Bedouin of the desert borders, and negroes from the Soudan, black soldiers like the splendid fighters we met and also employed in our own wars on the Nile. Then along the edge of the woods the main body began to move out and form for battle, amongst them squadrons of mailed horsemen. Saladin himself rode into the battle front to direct the attack on the rear of the column. Here the arrow flights had dismounted several of the Knights of St. John, and their Grand Master sent a messenger to the King asking for permission to charge the Infidels. He was told that he must wait till six trumpet blasts gave the signal for a general onset. Richard meant that when the charge came it should be decisive, and was therefore watching for more and more of Saladin's army to descend from the wooded hills, so that when he attacked there would be a dense crowd into which to drive the masses of heavy horse at his command.

At the rear of the column the Moslem now changed their tactics. They thought that the Knights of St. John were wavering, so the horsemen dismounted, and with spear, sword and mace flung themselves on the infantry, now reinforced by many dismounted men-at-arms. It must have been like the Soudanese rush on the British squares

at Tamai and Abu Klea ; but here there was no blast of rifle fire to check the onset. Turk and Arab and Soudani came to handstroke with the Europeans, and fighting desperately, these were forced back under the mere weight of numbers. The Grand Master of the Hospitallers, fearing to see his mounted men disordered by the infantry breaking under the attack, moved them to the right and prepared to charge. The King was on the point of bidding his trumpets sound, but before the order could be given, the Knights of St. John rode out into the press of the enemy with levelled lances. All along the battle line the movement was imitated. Bohaëddin, looking on from the side of Saladin, tells how suddenly the wall of infantry opened out to make passage for the knights, and these, brandishing their spears and shouting their war-cries, rode out to charge. First the Knights of St. John, then in quick succession the French and Burgundians, the English, Angevins and Bretons, and finally the Templars rode into the enemy's ranks with the long lances bristling before their onset. The King, battle-axe in hand, rode with those he was nearest, the English in the centre. Before this sudden onset the Moslem broke in wild panic. Only towards the rear, where their array was densest, the Knights of St. John broke in with crashing of lances and then drew their long swords and cut down hundreds of the enemy, who were too packed together for rapid flight. Along the centre and on the right the charging squadrons met with no resistance, and overtook few of the broken enemy.

Then once more Richard showed himself a leader that knew how to win battles. It had happened at times that the Crusaders, after dispersing an enemy in the first charge, had themselves been attacked and routed during a disorderly pursuit. He knew the danger, and in the flush of victory he ordered his trumpets to sound the rally, and the knights and men-at-arms drew off from the chase of the broken Moslem and rapidly formed in a long line fronting towards the forest, which was still more than a



mile away. Saladin's emirs were rallying the fugitives, and the Sultan himself brought his heavy cavalry down from the wooded slopes to attack the Crusaders. Again King Richard's trumpets rang out the charge, and, dispirited by their first failure, the enemy broke before it. This time the pursuit was pressed in good order for nearly a mile. It came upon and broke a third line—Saladin's last reserve. Then within bowshot of the woods Richard halted and rallied his men and began a retirement to the road. He knew better than to pursue even a badly beaten enemy into the forest-clad hills, and he knew too that after such a defeat it would be long before Saladin would be able to fight again.

The battle shows how thoroughly the Crusaders had learned the lesson of combining infantry with cavalry on the battlefield. But in Europe it was not till after the Crusades that any advantage was taken of this Eastern experience. It is curious to see how in important engagements fought in the West during the later period of the Crusades, and at which many knights who had served in Palestine were present, no use whatever was made of the foot soldier, and the decision of the battle was left to the mounted men-at-arms.

The battle of Bouvines, fought in the summer of 1214, was one of the main links in the chain of events that made France. King Philip Augustus, who commanded on the French side, had been a comrade of Richard the Lion-heart in the Crusades. William Longsword, Earl of Salisbury, who was among the leaders on the opposite side, was also a Crusader. The two armies were formed in the same array—a mass of infantry in the centre, on each of the wings mounted men, knights and men-at-arms, and behind the centre a third body of cavalry. The infantry clashed together, and the victors in the strife were ridden down by the knights while disordered with their success. Then the battle became a cavalry engagement. There was no use of archery on either side, no attempt to use the

foot as a support and protection for the mounted men. The knights and men-at-arms decided the battle.

The battle of the Marchfeld (1278), fought more than seventy years after Bouvines, was another decisive engagement, for it saved the Emperor Rudolph of Hapsburg from the Slav peril, and thus influenced the destinies of Central Europe for hundreds of years to come. It was essentially a cavalry action, decided by the heavy-armed horseman.

The opponent of the Hapsburg Emperor was Ottokar, King of Bohemia. He brought into the field an army of Bohemians, Moravians and Poles, with a contingent of German knights. On the battle day he left his few infantry to guard his camp, and set only his horsemen in battle array. Rudolph of Hapsburg had no infantry with him. He took the field at the head of the knighthood of his hereditary dominions and some contingents from Germany. It is interesting to note that among these was a body of a hundred men-at-arms under Frederick of Hohenzollern, Count of Nuremberg. Thus at the battle of the Marchfeld Hapsburg and Hohenzollern were allied against the Slav power, as they are at the present day.

These Austro-German forces would not have made up one-half of Ottokar's array, but happily for his chance of victory Rudolph had as his ally Ladislas, King of Hungary, who brought up a force that made the chances of battle fairly even. The Hungarians have always been a nation of horsemen, and the army of Ladislas was entirely made up of mounted men—Magyar knights and barons in full armour; lighter-armed cavaliers who could compensate for inferior equipment by more rapid movements; and finally some thousands of wild tribesmen from his eastern borders, mounted bowmen, not unlike the Turkish horse archery that had so sorely beset the Crusaders at Dorylæum, and using the same tactics.

In the centre and on the right of the Austro-Hungarian army the battle was decided by sheer hard fighting between masses of men-at-arms. On the left the mounted

bowmen of Ladislas contributed to the victory by harassing the mounted troops on the right of Ottokar's array, and making them so unsteady that they broke at once before the charge of the Magyar cavalry. The Bohemian infantry never struck a blow. They abandoned the camp on seeing the rout of the mounted men.

The use that Ladislas made of his mounted archers was something exceptional and in a sense undesigned. The combination of fire and shock tactics was used simply because the tribes who supplied the archery had recently taken refuge in Hungary under the pressure of the Eastern Slavs. Rudolph held a chosen body of men-at-arms in reserve and used them to decide the battle at a critical moment—a piece of tactics in advance of his time. For most of the cavalry leaders of the Middle Ages a battle was but a tournament on a grand scale and fought out to the end, and the accepted method was to throw the opposing lines against each other, and after the first shock let hard fighting with sword and battleaxe decide the result. Meanwhile all leadership was abandoned and the commander-in-chief of an army fought as a mere unit in the *mêlée*.

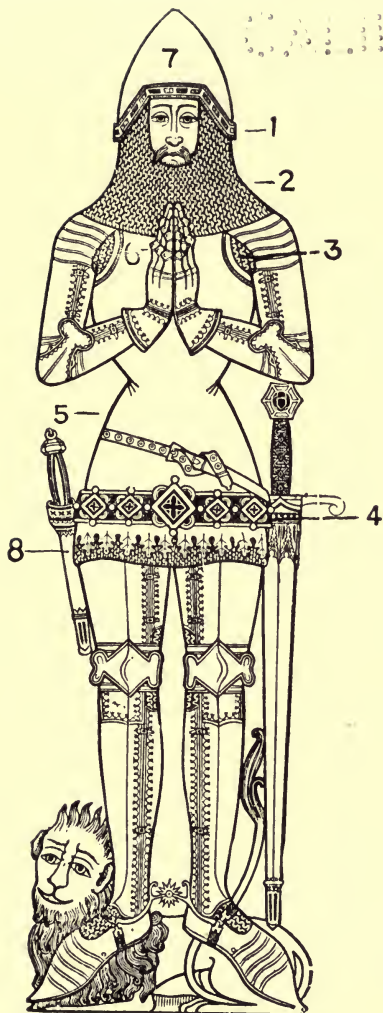
## CHAPTER VI

### THE RISE OF INFANTRY—VICTORIES OF THE SWISS PIKEMEN AND HALBERDIERS AND THE ENGLISH ARCHERS

**T**HE heavily armed horseman—baron and knight and man-at-arms—had been the lord of the battle-field for some three hundred years, despising the mere foot soldier, and counting only the cavalier a “foeman worthy of his steel.” Then in the fourteenth century came the beginning of a great revolution in the methods of warfare, and mere levies of armed burghers, peasants and mountaineers showed that they could meet on more than equal terms the hitherto all-conquering feudal cavalry.

New tactics and new weapons brought the change about, the men who were the human factors in it being the yeomen and peasants of England, the townsmen of the Low Countries, and the herdsman of the mountains of Switzerland and the burghers of its lake-side cities.

The militia of the Belgian cities had already shown that a steady array of pikes and halberds in the hands of resolute men on foot could defy the efforts of heavy cavalry to break into it, and that outside the bristling hedge of spears the mounted man was helpless. But the Switzers, in the defence of their mountain land, carried infantry tactics a step further. They showed the mass of spears and halberds had an effective power of shock action; that it could be used to attack and not merely when standing on the defensive. It was really a revival of a very ancient method. The Swiss column of attack was not



ARMOUR USED IN A.D. 1400. FROM THE BRASS OF AN UNKNOWN KNIGHT AT LAUGHTON, LINCOLNSHIRE

1. *Vervelles*
2. *Camail*
3. "*Vif de l'harnois*," "*défiant de la cuirasse*"
4. *Baldrick*
5. *Fupon*
6. *Gadlings or gawtlets*
7. *Bascinet*
8. *Edge of hauberk*



unlike the phalanx. And curiously enough, in the armies of the Swiss Confederates, as in those of Republican Athens in its earlier days, a committee of leaders, not a single chief, directed the operations.

The Swiss career of victory began at Morgarten. The men of the Forest Cantons had defied Leopold of Austria. At the head of a column of heavy-armed horse the Duke was marching on Schwytz, moving by the hill-road that runs past Einsiedeln, and at the east side of the Righi turns round the mountain mass that looks down on the little cantonal capital. When the Austrian horse were crowding through the defile between the bold, precipitous slopes that look down on Lake Egeri and the margin of the water, stones and tree trunks were sent rolling down upon them from the hill, and at the same time the head of the column was attacked by a strong force of spearmen. In such a position the Austrians could only show a narrow front, and were on ground where their horses were all but useless. They were driven into a confused mass, numbers being pressed into the lake. Those who stood their ground were destroyed in detail, the rest were only too glad to escape from the trap into which they had fallen.

Taught by the experience of the defile of Morgarten, Leopold made his next invasion by way of the more open country of western and northern Switzerland. On fairly level ground he encountered the Confederates on the field of Laupen. He had brought infantry with him. These formed his centre and left. The cavalry were massed on the right to attack the Confederates in flank as they advanced to the charge. The Swiss came on in three masses—right, centre and left. Before the charge of pikes and halberds the Austrian left and centre were borne down at the first onset. The Swiss right was hard pressed by the Austrian cavalry but held its own, "forming the hedgehog" as they called it, a mass of men bristling on all sides with spears. Then the victorious right and centre swung round and boldly charged the Austrian knights in

flank and rear, while they were already engaged with the Swiss left. The cavalry were cut to pieces, the Swiss pikemen stabbing the horses and then disposing of the fallen riders.

Morgarten and Laupen laid the foundation of Swiss freedom and taught the mountaineer that he had nothing to fear from the feudal array either in the defiles of the hills or in the open plain. Then another Duke Leopold challenged the ordeal of battle with the peasant warriors, and Sempach set the seal on the military renown of the Confederates.

Leopold the Proud, Duke of Austria, was a nephew of the Leopold who had been defeated at Morgarten seventy-one years before. When in the spring of 1386 he prepared to break the power of the Forest Cantons, he mustered a little army of between 4000 and 5000 men, of whom 1400 were mounted knights and men-at-arms. He had with him a small body of archers and a few heavy cannon, then a novel weapon of war. They were intended to be used in battering down the walls of Lucerne, but they would also fire a few shots at the opening of a battle, rather for the sake of the "moral effect" of the burst of fire and the loud report than for the actual damage they might do in the Swiss ranks.

Instead of plunging into the fastnesses of the Forest Cantons, Leopold marched on Lucerne by way of Zurich and the upper Aar valley. The mountaineers had gathered in the hills between the Lakes of Zurich and Zug, but when the westward march of the Austrians showed that Lucerne was threatened they made their way thither, and, after a council of war, it was decided to march out to meet the invaders in the open field. They left Lucerne on Sunday, July 8th, about 3000 strong, and bivouacked in a tract of wooded ground near the south end of the Lake of Sempach. They had information that Leopold had halted near the other end of the lake.

Resuming their advance early next morning, the



Austrians found the Confederates barring their way. Leopold halted by the lake-side to offer battle. He ordered his mounted men to send their horses to the baggage guard and fight on foot beside the infantry. He hoped to beat the Swiss with their own weapons. Accordingly he formed his 4000 men into a square bristling with pikes and lances, and opened fire with his cannon against the Swiss in the wood to provoke them to charge him.

This was what they meant to do from the first. The Confederates were actually forming for the attack when the Austrian guns opened their slow fire. The canton of Lucerne had been the latest to join the League. The burghers of the city claimed the foremost place in the charge. They were anxious to show they could fight as well as the men of Uri, Schwytz and Unterwalden had fought at Morgarten and Laupen. So as the Swiss column issued from the wood the blue and white banner of the lake-side city was in front: Next above the forest of halberds and pikes waved the black bull's head of Uri. Then came the red and white banner of the foresters and mountaineers of Unterwalden, and last the white cross on the red standard of Schwytz.

The Austrian gunners abandoned their pieces and took refuge in the square, and the head of the column crashed upon its nearest face. The men-at-arms stood up to the shock, and there was a fierce struggle at spear point. Pike, lance and halberd crossed as the Switzers, locked in phalanx-like array, tried to force onward the Lucerne "battle," which was like the sharp edge of the great "*Keil*" or "*Wedge*"—to use the contemporary name for the Swiss column of attack. For a while the knights and nobles held their own against the peasants. More than once the Swiss fell back and another of the cantons took the lead in a renewed charge.

It was when the men of Unterwalden were in front that the hedge of Austrian spears was at last broken, thanks to the self-devotion of Arnold of Winkelried, a burgher of

Stans. Telling his fellow-countrymen that he would make a way for them, and that he left to their care his wife and children, he flung himself on the enemy's spears with outstretched arms, catching two of them in his hands. Four lances bored his body, others glanced on his helmet, but as he fell he dragged the spears down with him, making a gap in the line, and through the opening the mountaineers burst into the square. Once the Austrian array was thus broken by the "Wedge" there was something like a panic rout. Many of the invaders were driven into the lake, others fled along its margin. Those who disdained to seek safety in flight were hewn down by the Swiss axes and halberds. Thus it was that Leopold the Proud died amid a circle of his barons who fell with him. The Duke's cannon were dragged back to Lucerne by teams of oxen as trophies of the victory.

So far as the numbers engaged went Sempach was a small affair. But it had enduring results. It made even the boldest realize that to march into the Swiss hills was like plunging one's hand into a hornets' nest. It showed that the peasant and burgher on foot could be a winner of battles. To the Switzers their success gave unbounded confidence in their own prowess, the feeling of invincibility that is the pledge of victory. In the next century the Swiss infantry destroyed a French invading army and broke the rising power of Burgundy at Granson, Morat and Nancy. The fame of the Swiss pikemen and halberdiers, their readiness to fight for foreign princes, and their resolute valour and absolute fidelity to their employers gave them opportunities of mercenary service for centuries after under half the sovereigns of Europe.

The other development of infantry power was of even greater significance. It was the beginning of the revolution in warfare which in our own days has culminated in the supremacy of fire tactics as opposed to shock tactics on the battlefield.

The bow had been from time immemorial a character-

istic weapon of many Eastern nations, but it was a short weapon of very limited range and of little power except at close quarters.<sup>1</sup> In the West it had never been a very serious factor in the winning of battles. The armed horseman could always ride down the archers, with little loss or risk. The cross-bow was a more formidable weapon than the short bow. It had fairly long range and considerable penetrating power in its bolt, but it had the drawback that the winding up of the bow between each shot was a long process. The fire of cross-bowmen was therefore slow, and the weapon was more used in the attack and defence of castles and walled towns than in the open field.

It was in the fourteenth century and in England that a new weapon made its appearance—the long-bow—which was as great an advance upon the short bow as the breech-loading rifle was upon the old musket. South Wales appears to have been the actual place of its origin, but it was in the armies of the English Plantagenet kings that it first made good its position as a winner of battles.

From the mechanical point of view its efficiency depended on more than one factor, but the chief of these was that with a six-foot bow it was possible to use a long arrow, and the long arrow drawn till its head rested on the wood of the bow gave the archer the power of storing up a tremendous amount of energy in the long bent spring formed by his bow. On loosing the string he released a driving force sufficient to carry the arrow for 300 yards, and with force enough to kill horse or man even at 200. Further, the trained archer could discharge twelve arrows in a minute. On going into action he drew the arrows from his quiver and stuck them in the ground in front of

<sup>1</sup> I do not overlook the fact that in Western Asia, especially among the Turks, in the eighteenth and the first part of the nineteenth century travellers gave accounts of wonderful feats of archery which they had witnessed, including shots made with the bow at ranges of 300 and 400 yards. But it would seem that these were the performances of exceptionally strong and expert men, with bows that only they could handle. Certainly in the Crusading period there was no archery of this kind.

him. They were thus ready to his hand, and in a moment after loosing one shaft another was on his string. Life-long practice made the action almost automatic. And the trained archer was a good marksman. The arrow from the long-bow could pierce an oak plank or a steel plate such as was used in the armour of the first half of the fourteenth century. Until the rifle was invented there was no weapon so formidable as the long-bow. The wonder is that the old musket was ever able to supersede it.

Introduced into the English armies during the Welsh campaigns of Edward I, used with decisive effect on Scottish battlefields, and failing only to turn the tide of battle at Bannockburn, the English bow won its epoch-making success in the Hundred Years' War in France. By the reign of Edward III systematic training in the use of the bow had become part of the life of every English village. King Edward had secured the possession of an army that could be used for extensive operations in a long campaign by partly commuting personal war service for money contributions and using the resources thus obtained for paying his troops, and the levy of men under these new conditions included some thousands of archers. In the battles in Scotland the English archers had been chiefly used to prepare the way for the attack of the heavy feudal cavalry, or to force an enemy, ill provided with missile weapons, either to abandon a strong position or to charge out of it and give the opportunity for an attack by the English horsemen. The epoch-making feature in the English victories in France was the proof they afforded that a body of trained archers could make it impossible for the best feudal cavalry in Europe to charge home—that the peasants and yeomen armed with the long-bow could keep up such a continuous and well-aimed arrow fire that their front rank was as unassailable by the mounted men-at-arms of the time, as the front of a line of infantry armed with the repeating rifle is now unassailable by a cavalry charge.

At Crécy, on 26 August, 1346, the English long-bow

was opposed to the cross-bow, the latter being in the hands of Genoese mercenaries, who were among the best cross-bowmen in the world; and men-at-arms on foot were opposed to the heavy feudal cavalry. It was a defensive battle for the English, and their success was made easier by the hopeless disarray of the French attack.

King Edward III was retiring towards Flanders after a raid up the Seine valley. He had with him about 20,000 men—more than half of them archers.<sup>1</sup> The French King Philip of Valois was following him with an army that grew in numbers as the local levies joined it on the line of march, till on the day of battle it was some 60,000 strong. Froissart says that of these about 20,000 were mounted men-at-arms, French nobles and knights with their following, and a number of Bohemian and German men-at-arms under the old King of Bohemia, the Duke of Lorraine and the Count of Flanders. Among the infantry were the 6000 to 8000 cross-bowmen under the Genoese *condottieri* Doria and Grimaldi.

Late in the summer day King Philip learned that the English had turned to bay behind the forest of Crécy. The French army was marching by the southern end of the woods, horse, foot and wagons trailing for miles along the Abbeville road and the ground to right and left of it. As the rumour spread that the English had halted there was at once an excited outcry for immediate battle.

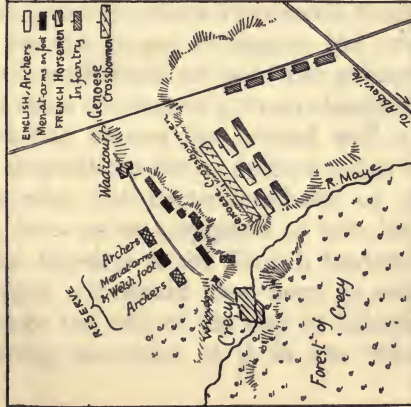
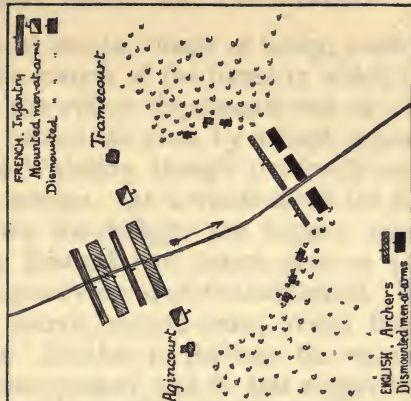
Those who have never taken part in, or witnessed, the deployment of a large force from the line of march into battle order can hardly realize the time it takes, and the careful arrangements that have to be made, even with the elaborate organization of modern armies, and with several parallel roads available. With 60,000 men, who were little better than a roughly assorted gathering of horse and foot, all moving forward on a single line, it would under

<sup>1</sup> Professor Oman takes as the most reliable estimate of the numbers in line at Crécy 3900 men-at-arms, 5000 Welsh infantry and 11,000 English archers (*History of the Art of War from the 4th to the 14th Century*, p. 605).

the most favourable circumstances have been a matter of many hours before all could be deployed on one front. It was late in the summer afternoon, and the knights who had reported to King Philip the presence of the English made the very obvious suggestion that he should not offer battle till next day, but spend the remaining hours of daylight in setting his force in battle order. Even so it would be dark before the rearmost troops could come up into line. Philip adopted the suggestion and gave orders for the van to halt and the rest of the army to form under its protection. But the great barons, who regarded themselves as almost in the position of allies rather than subjects, only obeyed orders when they approved of them, and in this case they were carried away by the general excitement of undisciplined enthusiasm for action. Instead of halting, Flanders and Alençon pushed on, only waiting for the Genoese bowmen to get in front of them. The sun was well down to the westward when moving round the village of Estrées the vanguard of the French army deployed on a flat-topped, grassy chalk down, the Genoese in open order in front, the knights and men-at-arms in the second line, with the banners of Flanders, the Dauphin and Alençon flying over the array.

Behind them two-thirds of the French army was moving up in a long, straggling column, stretching over many a mile of dusty, sun-baked road and down. But the Dukes thought they had enough men in hand to destroy before the summer day ended the 20,000 men arrayed against them, under the new standard of King Edward, the lions quartered with the lilies in assertion of his claim to be King of France.

In front of the French line the ground sunk to a trough-like valley of the downs, a valley now traversed and marked clearly on the map by a branch line of the Northern Railway of France. The valley runs from south-west to north-east. On its eastern and northern side was the English array.



AGINCOURT

POITIERS

CRECY

VICTORIES OF THE ENGLISH ARCHERS

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Map of the Empire of Austria



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Its right rested on the village of Crécy, nestling among the trees on the margin of the forest to which it gives its name. Above the village the ground rose to a long swell traversed just behind the crest by a road, a position suggesting that of Waterloo, though the levels are different and the slopes steeper. At a windmill on the shoulder of the down above the village, the highest point of the position, King Edward had taken post—a point from which he had a good view of all the battlefield. Behind the road was his reserve, men-at-arms, Welsh infantry and English archers. Further to the rear the wagons of the baggage train were parked, and in this wagon laager most of the horses of the nobles, knights and men-at-arms had been secured, for the King had decided that they should fight, not as cavalry, but dismounted in support of his archery. His main battle line was formed along the crest of the high ground, the right under his son, the Black Prince, in front of the windmill; the left under the Earl of Northampton, stretching away towards the village of Wadicourt, on the walled enclosures of which the other flank rested. The left was thrown back somewhat behind the line of the right, but a very short advance would place it on the same alignment. The order of the battle line was a mass of archers in the centre and on both flanks, and between them the two solid bodies of dismounted knights and men-at-arms under the Black Prince and Northampton. While waiting for the enemy to appear the archers had dug a number of small holes all over the ground in their immediate front as an obstacle to a direct charge of cavalry.

King Edward had chosen his ground well and made singularly good dispositions for its defence—that is, always taking into account the battle methods of the time. Against such a force as was opposed to him his position would have been hopeless if the French leaders had any real tactical insight. It would have been an easy matter for them to devote the rest of the day to bringing up all their force, placing one-third of it in the front of the

English and massing the rest in columns of march on the right. At daybreak next morning these 40,000 men would have moved northwards past Wadicourt, and then the English would have either to attempt a rapid retreat or fight with an overwhelming force rolling up their line from the flank and pressing on the left rear. They would be cut to pieces or driven into the forest of Crécy to starve there. But such a plan was beyond the utmost imagination of a medieval general, who thought only of an attack front to front, and regarded superior numbers, not as offering the means of a decisive flanking movement, but as material to be employed in forming a succession of "battles" or fighting divisions, to be pushed forward one after the other to wear down the resistance of the defence, or overwhelm it by the mere pressure of the accumulating multitude. At Crécy the archer armed with the long-bow showed how hopeless such primitive methods had become against "fire tactics."

Bad as the feudal methods of attack were, they were used in the worst possible way at Crécy. As soon as the cross-bowmen were ready and enough mounted men for a first onset were in line behind them, Alençon gave the order to advance. Moving down the grassy slope in open order, the Genoese halted when they judged they were within bowshot and let fly a first volley. Most of it fell short and it did little damage. But as the English arrow flights answered back the slower fire of the cross-bows, hundreds of Genoese went down, shot through body, head or limb, or staggered back with the long shaft skewering their muscles together and making them helpless. Those who lived through the deadly storm of rapid arrow fire said it was like a pelting shower of hail. For a few minutes the Genoese tried to stand up against it and return the fire, but every moment their losses increased. It was clear that they were outweaponed and outfought. Hundreds began to run back up the slope, and soon the flight became general. The hill-side was covered with a broken crowd.

From the crest Alençon's men with the following of the Dauphin and the Count of Flanders had watched, first with surprise, then with fierce anger, the collapse of this huge force of cross-bowmen. The word was passed to charge through the fugitives and attack with the lance. The three masses of "barbed horse" thundered down the slope, trampling and cutting down the hapless Genoese and cursing them for cowards and traitors. Then, as the horsemen got clear of the broken mob and began to breast the opposing slope, they came under the full force of the English arrow shower, and there was another revelation of the power of the new weapon. The arrows pierced through the plate and mail, nailed the shields of riders to their bodies and their legs to the saddles, brought horses down or sent them plunging madly to the rear. Alençon and Flanders and many another noble and knight fell dead amid the confused mass of disordered horse and foot. Brave men urged their horses forward through the arrow storm. Here and there bodies of horsemen struggled up the slope, their numbers thinned as they advanced till at last a few threw themselves on the levelled spears of the English men-at-arms. They were too few to produce any effect. They rode at the parts of the line held by dismounted knights and men-at-arms, probably for the simple reason that those who kept directly in front of the archer lines could not get anywhere near them.

At last, mingled with the remnant of the Genoese, the wreck of the broken cavalry retired up the slope and reached the plateau on its crest, where they were out of reach of the terrible English bowmen. By this time another body of heavy cavalry had come up to the position and a second charge was attempted, which ended as disastrously as the first. Few of those who took part in it came anywhere near the front of the English foot. Northampton had now moved up his array in line with that of the Black Prince, and against these two masses of dismounted men-at-arms the charge was directed. It is

remarkable that no one on the French side seems to have had any idea of a sweeping charge round the English left. Every attack was made over the same ground, directly to the front.

More than twelve times King Philip's horsemen rode "into the valley of death," always with the same hopeless result. Once only a body of French men-at-arms reached the front of the Black Prince's array and broke through the first line of lances. They were beaten back after a brief *mêlée*. In these successive charges the persistent recklessness of the French chivalry only accumulated loss on loss. The sun had set and the twilight was fading as the last charge came rolling back in broken defeat from the English front. King Philip was gathering a party for another onset when his knights insisted on his leaving the field and almost forced him away. The infantry, dispirited by the tidings brought by fugitives from the fight, were already retiring. The battle had been lost with fearful destruction for the defeated side. The lowest estimate placed the number of the French who were killed or badly wounded at 10,000, and this loss had fallen chiefly on the horsemen. It was a new experience in war. For more than a hundred years, thanks to the development of body armour, the feudal cavalry had suffered comparatively slight loss even on hard-fought fields. Even on the defeated side, as a rule, more of the men-at-arms were unhorsed and taken prisoner than killed or wounded. For them the battle was becoming more and more like the *mêlée* in the lists of a tournament. On the battlefield in case of defeat it was the lightly armed infantry levies that incurred really severe losses. But at Crécy, though the Genoese mercenaries had suffered badly, the infantry had marched off without taking part in the battle, and it was the French *noblesse* and knighthood and their mounted retainers that paid the terrible cost of the disaster. The loss of the victors was trifling.

At Poitiers ten years later—on 19 September, 1356—the

Black Prince won another great victory against heavy odds, thanks once more to the power of the English archery and the steadiness of his dismounted men-at-arms. His opponent was King John of France, who as the Dauphin had ridden in the first charge at Crécy and escaped the dangers of that day. The Black Prince had been raiding in the south of France at the head of an army of about 8000 men, partly English, partly men of Guienne and Gascony. The most valuable element in it was his force of 3000 or 4000 English archers. He was making his way back to Bordeaux with his baggage train encumbered with a great quantity of plunder, when King John, at the head of a much larger force, struck in upon his line of march near Poitiers. The King's army numbered more than 20,000 men, of whom some 16,000 were French men-at-arms and German auxiliaries, all mounted, and 4000 or 5000 foot, of whom about half were cross-bowmen. The Black Prince took up a strong defensive position in close country, cut up by hedges and thickets of tangled bush, where it would be difficult for the enemy to use his cavalry. His front faced a narrow valley, on the southern slope of which he formed his first line along a thick thorn hedge. The only gap in it was where a narrow lane ascended the slope, a road by which only four knights could ride abreast. Right and left of the lane, along the barrier of the hedge, he placed his two foremost "battles," or fighting divisions. They were made up of archers and dismounted men-at-arms. On the higher ground in the rear he had his reserve, or third "battle." All the horses were sent to the rear. The flanks were protected by dense thickets, and on the left a marshy stream made the ground impracticable for heavy-armed men even on foot.

King John dismounted all his men-at-arms except 300. These were to charge up the lane and force the gap, supported by his German mercenary troops and cross-bowmen. Behind this first "battle" three others formed across the road, all made up of dismounted men-at-arms. The second

“battle” was commanded by the Dauphin; the third by the King’s brother, the Duke of Orleans; the last by the King himself.

What followed may be briefly told. The assailants appear to have reaped some advantage from the fact that armour had been made heavier—specially to resist arrows—since Crécy, and they were after the first onset spared the difficulties that arose from men being brought down by their horses being killed, or confusion being caused in the ranks by wounded and maddened horses bolting through the press. This much they gained by their dismounted tactics. How hopeless an attack in the saddle would have been was shown by the speedy collapse of the small mounted force that opened the fight. They were destroyed before they could reach the hedge. The Germans, moving up after them on foot and covering their advance with showers of cross-bow bolts, fared little better. Yet after severe loss some of them reached the hedge. But they failed to force their way through it, and galled by a flanking fire of arrows from a party of archers sent forward through the marshy ground on their right, they at last gave way.

The three great “battles” of dismounted men-at-arms still remained. The Dauphin’s men, though suffering severe loss from the English archery, got as far as the hedge, but failed to force their way through it, and were at last beaten off. It was a hard fight, and the Black Prince had to use nearly all his reserve to strengthen his first line. As the Dauphin’s men retired in disorder, the Duke of Orleans lost heart at the sight of the failure of two attacks and the discouragement and unsteadiness of his own men. He drew off from the battle ground, declaring that victory was impossible. Not so his brother the King. Rallying all he could bring back to his standard, he attacked with the fourth and last “battle.”

The Prince threw all his reserve into the fighting line except sixty men-at-arms and 100 archers, whom he sent

out to the right, under one of his Gascon followers, to make a demonstration against the enemy's flank. Then as King John's attack neared the hedge, slightly disordered by its march over the broken ground, the Prince gave the order to his first line to charge the enemy. The French at first stood up well against this unexpected counter-attack. But they broke when suddenly from their left came flights of arrows and they saw armour flashing and banners waving among the thickets on their flank. They thought that a new army was arriving to the help of the English, for it seemed impossible that men could come on so boldly unless they had strong support behind them. So a flight began on the left, extending rapidly to the whole line. After this the battle became a series of detached encounters between the victors and such of the French as still stood their ground. In one of these fights King John and his son were made prisoners. After Poitiers it was long before the French again risked a pitched battle in the open field.

Under Henry V Agincourt repeated the lessons of Crécy and Poitiers. It was a battle opened by a success of the archers and ending in a victorious counter-attack on the dispirited and partly broken enemy. Henry had with him only some 6000 men-at-arms and 8000 archers, and the French were 60,000 strong. Of these 15,000 were knights and nobles and their personal following of mounted men. There were also some thousands of light horse, 400 cross-bowmen and 20,000 infantry armed with spear and halberd. Henry drew up his little army with the men-at-arms in the centre, dismounted as at Crécy, their flanks resting on two stretches of woodland, and some ploughed fields miry with rain in the front. The archers were formed along the front of the men-at-arms and along the margins of the woods, so that they stood in a crescent, concave towards the enemy, on whom they could pour a converging storm of arrows as he advanced. In front of the archery pointed stakes had been fixed in the ground.

The Constable of France, instead of trying to manœuvre

the English out of their position, adopted the usual plan of a frontal attack in mass, for which he dismounted more than half his cavalry. The French formed in three battles, men-at-arms and cross-bowmen in the first two, and the infantry in reserve in the third. The first battle as it advanced melted away under the arrow shower. As it gave way it barred the advance of the second and threw it into some confusion. After a deadly discharge of arrows on the mass of horse and foot that was struggling through the ploughed land the English made their counter attack and fairly routed the enemy. The infantry, seeing the disastrous failure of the nobles and knights, retreated without striking a blow.

Other battles were won by this same combination of fire and shock—destruction of the enemies' attacking power by arrow fire on the defensive and then the counter attack of the men-at-arms at the critical moment. It was very like the tactics by which with other weapons Wellington won his battles in the Peninsula against the same opponents, and often against very superior numbers. The foot soldier was coming into his own again, but it was not for some centuries that he asserted his full supremacy, and it might be argued that this revolution in warfare was, if anything, delayed by the invention of other weapons, which, inefficient as they were for hundreds of years, yet produced an impression on men's ideas of war that made them regard the tactics of the archer as something to be superseded, not developed.





A MUSKETEER (BEGINNING OF THE 17TH CENTURY)

*He carries a matchlock musket, wears a bandolier with cartridges and priming powder flask hanging upon it, and holds a rest and lighted match in his left-hand*

Handwritten text, possibly a signature or title, located at the top left of the page. The text is faint and difficult to decipher, but appears to consist of several lines of cursive or semi-cursive script.

## CHAPTER VII

### FROM THE INTRODUCTION OF FIRE-ARMS TO THE THIRTY YEARS' WAR

**T**HE weapons that were to change the whole aspect of the battlefield and introduce a new era of warfare were fire-arms—great and small—cannon and musketry.

It would take too long and yield no profitable result to discuss in detail the vexed question of the invention of gunpowder. Out of much controversy and conjecture this much emerges as fairly certain. It was known long before the English friar Roger Bacon and the German monk Berthold Schwartz made their successful experiments with "villainous saltpetre," and it was first used in more than one country and with many varieties of composition, not indeed for sending bullets and balls flying through the air, but for mere fireworks, and later as an incendiary substance. Long before Europe knew it, Chinamen—lovers of resounding noise—used it in crackers and squibs, perhaps in rockets, and after having learned its capacities for firework displays, passed by an easy transition to the flinging of "wildfire" among an enemy's ranks or on to his roofs and stockades. The "Greek fire," secretly prepared in Byzantine arsenals, had gunpowder for one of its constituents, and was used for the same wildfire business, or to dart flame from a tube in the faces of assailants or against the sides of an enemy's galleys. Petroleum from Baku, or mere wax that melted in the heat, were perhaps added to the arrangement to spread the flame, for one hears of the Greek

fire flowing with a liquid blaze. It was no doubt the fame of the Greek fire that set Arab alchemists to work to compound some mixture of the same kind. Perhaps renegades from the Greek Empire gave them useful hints. And it was these ingenious Arabs who first hit on the idea of making the explosive shoot a ball out of a cannon. Possibly the first suggestion came from a blow-up in a laboratory experiment.

However this may be, it was in the siege operations of Moor and Christian in the Spain of the thirteenth century that cannon first played a part, the Christians learning the trick from their enemies. In the next century the knowledge of the new invention spread through Western Europe, the cannon with their stone balls being used at first only in siege operations.

The powerful artillery of to-day is the outcome of only some sixty years of scientific work. But the way had been prepared by five centuries of slow rule-of-thumb experiment. The first steps were the most difficult by far. The cannon of early days were so costly, cumbrous and ineffective that the wonder is that they were ever taken into the field. They were of obvious advantage in sieges, where they had not to move about and could deal hard knocks to feudal castles and city walls. But they must have been a temper-trying encumbrance to armies on the march; and on the battlefield they were not really as dangerous to an enemy as a few cross-bows or "bows and arrows." Nevertheless these clumsy old cannon kept their place in armies and gradually became essential to them because they made a noise, and if they did chance to hit anything they hit it in a very unpleasant way—so the big gun got on people's nerves and produced what we call "moral effect," and this justified all the trouble and expense of dragging it about. How much the noise had to do with it we can see for ourselves in old treatises on artillery, where there are quaint directions for making the report louder.

These old books are curious reading, very different from the scientific writings of modern artillerists. The gunner

of medieval times was not only a man of importance but also a man of mystery, a strangely skilled craftsman as well as a soldier. For centuries there was a kind of freemasonry among the gunners. They had, or pretended to have, secrets, which they imparted to their pupils only under solemn oaths of fidelity to the craft. There were no privates among the gunners in those good old times. They were all officers with exceptional rates of pay, and as there were not many of them they could easily keep up their prices.

They had their pupils to assist them, and labourers to do the heavy work. Besides using his guns in action the gunner had to know the art of making cannon, gunpowder, projectiles and various kinds of fireworks. His duties were heavy and continuous in the siege or defence of a fortress, but in battle he had an easier task. As his guns could not be moved about freely, his work was done when he had let off a few shots at the opening of the fight. As he had plenty of wagons and draught animals at his disposal, he could make himself fairly comfortable on the line of march and in camp. Being something of a mechanic he was not usually a knight. Indeed, from the social point of view he was somewhat looked down upon, but at the same time he had the respect of men, as one who could control dangerous and mysterious engines of war, and he had the reputation that comes of taking serious risks in the ordinary round of the day's work.

These risks were very real. James II of Scotland was killed at the siege of Roxburgh Castle by the bursting of a Flemish gun in his lines. It was built up of iron bars held together with hoops and wedges. The gunner overloaded it, and the King was struck by a flying fragment and killed on the spot. It was an act of courage to fire these primitive cannon. What is perhaps the earliest treatise on artillery, the *Livre du Secret de l'Art de l'Artillerie et Cannonerye*, dating from the fifteenth century, begins by enumerating the "qualities, manners and know-

ledge which ought to be possessed by everyone who professes the art of the cannonier," and lays it down that :

" In the first place he ought to honour, fear, and love God, and to have Him always before his eyes, and go in fear of offending Him, more than other soldiers, for every time that he fires a bombard, cannon, or other piece of artillery, or is engaged in making gunpowder, the piece may be burst by its great force, or if it is not burst he is still in danger of being burned by the powder, and the very breath of these powders is a deadly poison for men."<sup>1</sup>

It is to be noted that in this pious admonition nothing is said of any particular danger to life and limb from the enemy's artillery fire, which is the special risk of the modern gunner. The old gunner evidently regarded the danger from his own " bombards and other pieces of artillery " as more imminent and serious.

When cannon were costly to obtain and extremely difficult to transport and work in the field there were very few with an army, and each had its own name. Thus we read of a French army of the fifteenth century being provided with " four great cannon, one called Garite, another Rose, the third Senéque and the fourth Marye." A tradition of those early days, when cannon were rare in number, still survives in the importance attached to the capture or loss of a few guns on the battlefield. How many brave deeds have been done, how many gallant lives sacrificed to " save the guns " or to take such trophies from an enemy !

The hand-gun which began to come into use about the end of the fourteenth century was at first a miniature cannon, fired with a match applied by hand to its touch-hole, and with a short heavy barrel and a stock adapted from that of the cross-bow. The range must have been very limited and the shooting bad to the extent of making the hitting of the mark a matter of mere chance. Only a very small charge could be used with a short barrel of

<sup>1</sup> Quoted by Fortescue, *History of the British Army*, Vol. I.

## THE INTRODUCTION OF FIRE-ARMS 101

large bore fitted to the clumsiest of stocks. A heavy charge would certainly have disabled the hand-gunner at the first shot. The hand-gun was used in England in the Wars of the Roses, but the bow was long after the chief weapon of the English foot soldier. It was in another civil war, that of Cavalier and Roundhead in the seventeenth century, that the bow was last used side by side with the musket.<sup>1</sup> It was then a survival, the weapon of badly armed men who could not afford the costly hackbut and arquebus. One may say that, broadly speaking, in the fifteenth century the fire-arm was a novelty and a relatively infrequent weapon compared to the bow ; in the sixteenth it had come into its own and the bow was old-fashioned. In the next century the bow became obsolete.

As in the case of cannon, it was no doubt its "moral effect" that enabled the musket to win its way into recognition as the foot soldier's weapon, despite its very serious inferiority to the bow which it gradually superseded. Montaigne, in the sixteenth century, expressed his surprise at its coming into such general use "seeing that it did so little real harm," and two centuries later another clear thinker, Benjamin Franklin, seriously proposed that in the improvised armies of the American colonists the difficulty of providing muskets and ammunition might be met by training recruits to the bow, arguing that arrows

<sup>1</sup> Walter Scott (*Legend of Montrose*, chap. xiv.) makes his hero, Major Dugald Dalgetty, exclaim, on finding himself among the Highland bowmen: "Bows and arrows! Ha! ha! ha! have we Robin Hood and Little John back again? Bows and arrows! why the sight has not been seen in civilized war for a hundred years! Bows and arrows! and why not weavers' beams, as in the days of Goliath? Ah! that Dugald Dalgetty of Drumthwacket should live to see men fight with bows and arrows!—the immortal Gustavus would never have believed it—nor Wallenstein—nor Butler—nor old Tilly." I suspect, however, that some of these heroes of the Thirty Years' War had seen bows and arrows at work in the hands of irregulars. Archery lingered on to a late date in Eastern Europe. At Leipsic in 1813 some of the French wounded fell to the bows and arrows of wild tribesmen from the borders of the Czar's Empire. This was probably the last appearance of the bow in European warfare.

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fantry and had all the ground to front of the line available for a charge. There was thus a reversion to the classic order of battle—foot in the centre, horse on the wings—with this difference, that the proportion of horse to foot was much higher.

Fire-arms came into use for the mounted troops in two ways. A carbine was carried in some cases to be used when dismounted. Hence the evolution of the dragoon or carbineer, a musketeer mounted on a horse that was meant chiefly for use in bringing him to the point of action. Secondly, and more frequently, the cavalier had a horse-pistol or petronel, to be fired into the enemy as the charging line came into close range, or kept in reserve for use in the *mêlée*. The petronel led to the adoption of tactics that were the very negative of true cavalry methods. The real weapon of the horseman in the charge against men on foot is his horse. He must try to ride down his opponent, and to do this he must deliver the shock of the charge at the highest speed his mount is capable of. But the pause to fire the pistol broke the impetus of the charge. A still more defective practice arose of firing and then turning to ride back and reload and come up again to deliver another irregular volley. This meant that the horsemen attempted to shake the opposing infantry by a fire that was necessarily wild and ineffective, while exposing themselves at close quarters to the much more effective fire of the musketeers posted behind a rank of levelled pikes.

It is a mistake to suppose that the coming of gunpowder at once rang the knell of armour in battle. Even at the present day the cuirassier cavalry of several foreign armies are partly armoured, not only in peace displays, but when equipped for the field. Helmet and breast-plate are worn for protection in the *mêlée* against sword and lance, and are even expected, if not to stop a direct hit of a bullet, at least to deflect it when it strikes at an angle on their curving surfaces. Armour as the general battle dress was abandoned very gradually, though there was a quicker reaction

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*Period of the Thirty Years War*

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from the exaggerations of the fifteenth century. That period was the time when the armourer's art was exercised in ways that seemed to suggest that the first object of the man-at-arms was to secure protection from injury at the sacrifice of every other consideration. The weight of armour carried was such as to make it a trying load for man and horse, and this not only with the heavier suits of plate and mail used in the brief exertions of the tiltyard and the tournament lists, but even in the slightly lighter armour of the battlefield. Ingenious systems of overlapping plates, joints and sliding rivets had been elaborated so as not to leave the least opening for a hostile arrow in whatever way the wearer moved his limbs. The helmet had assumed such an exaggeration of size and weight that it could only be put on at the last moment. On the line of march it was carried by an attendant or hung at the saddle-bow. Horses were so weighted with their own armour of leather and steel that they could only charge at a slow trot over a limited space. The riders were so encumbered that if once dismounted they were helpless. They had to lie where they fell till friendly hands set them on their feet, or an enemy ended their lives with a dagger, or made them prisoner. Battles were fought between cavaliers armed in this fashion with results almost as bloodless as those of the tournament—for even in the tournament wounds were incurred and life was sometimes lost. Soldiers soon began to realize that it was an absurdity to so rivet and buckle up a man in steel and iron that while he was fairly safe from injury he was also nearly incapable of inflicting it—so that in a word he was no longer a live fighting man. Then came the reaction. Gradually men became content with protection for the body and head, and armour was reduced to little more than that worn by the modern cuirassier. But it was still expected to be a safeguard against the bullet, and while in earlier days armourers tested a breast-plate with a cross-bow at short range, they now carried out the same test with pistol and bullet.

With the change in armament and tactics and the growing importance of drill and regular training the dividing line between the professional soldier and the temporarily armed townsman or peasant became more and more marked. The invention of gunpowder had far-reaching effects on the development of political and social conditions. It was no inconsiderable factor in the breaking up of the internal balance of power in the countries of the Continent as it existed in medieval times. With the coming of the professional soldier kings began to form small standing armies. These were often largely composed of mercenary troops temporarily engaged to deal with a crisis or assist in a single campaign. Against the trained professional soldier the feudal levy of a district or a peasant rising was all but helpless. With artillery ready to batter down the old defences a baron could no longer hold his castle or a walled town close its gates against a king. The improvement of fire-arms and the growth of absolutism in government were parallel developments of the sixteenth century.

In a wider sphere the coincidence of the introduction of artillery and musketry with the opening up of new worlds by the voyages of the great navigators had a marked influence on the development of colonization and conquest beyond the seas in barbarous and half-civilized lands. Armed with muskets and cannon, the European adventurer seemed to these rude peoples to have the lightning and thunder of heaven at his command. A mere handful of men thus equipped were more than a match for great armies fighting with the weapons of barbarism. It was with a force of only 550 foot, 40 horse and 8 small cannon that Cortes achieved the conquest of Mexico. The Spaniards had been the first in these enterprises beyond the ocean. It was the Spanish monarchy also that led the way in the formation of regular armies largely composed of disciplined infantry, a military force organized on a more national basis than the mere household troops of guards or bands of mercenaries kept in their pay by many sovereigns long

before the sixteenth century. The kings of Spain could attempt something more ambitious than this, because for a period of about a hundred years after the first Spanish conquests beyond the seas they were in the pleasant position of commanding a large revenue that did not depend on mere taxation. In those great days the king was practically the chief of a flourishing commercial business that at first had no serious opposition to contend with. There was thus money enough to keep a large army of regular troops continually in the service of the Crown. And those who organized and trained the Spanish armies of Philip II had the merit of recognizing that the heavily armed horseman was not only a more costly but also a less efficient soldier than the well-drilled infantryman. The strength of the Spanish armies depended on their *tercios* or regiments of disciplined pikemen and musketeers.

The two arms were combined in the *tercio*. Its full strength would be from 2000 to 3000 men, of whom two-thirds would be pikemen and the rest musketeers. Fire effect was still regarded as something secondary and auxiliary in battle. The Spaniards spoke of the pike as "the queen of the battlefield." The musketeer was more lightly equipped than his comrade of the pike, in order that he might be better able to carry and handle his still clumsy fire-arm. He wore a short sword and shouldered his musket and its forked rest. He had a steel cap, to save him from being cut down if surprised by cavalry, and a buff coat or leathern jacket that was sufficiently solid to afford some additional protection, and was often made gay enough with ribbons and embroidery. He could not well have worn a breastplate or corselet, for apart from considerations of weight, the butt of the musket could not easily have been brought to the shoulder against a curving surface of rigid metal. He had a pound of black gunpowder in his powder horn, at least thirty leaden bullets in his pouch and five or six feet of slow match. The smouldering end of this was attached to a kind of hammer on the musket

in action and brought down on the priming in an open pan by touching off a trigger. Rainy weather was likely to make the musketeers helpless to discharge their weapons. In battle they took refuge behind the pikemen when the fight came to close quarters. In the battle line the masses of pikes had intervals between them for the retirement of the musketeers.

But the pike was the weapon that really counted. As he was trained for close conflict the pikeman was fairly heavily armed. He had an open helmet, a breastplate and backplate. In the attack he advanced in a massive column like the men of the Greek phalanx or the Swiss confederates. The musketeers were sometimes used on the flanks of the advance to keep down hostile fire and shake the opposing infantry. But it was the shock of the bristling pikes that decided the business. On the defensive the Spanish infantry formed a square, like the Austrians at Sempach, and so long as the ranks were kept closed they were safe enough. If attacked by cavalry the outer ranks knelt with the butt of the pike resting on the ground, and they were taught to lower the point so as, if possible, to pierce the breast of the horse in front of them.

Occasionally we find the proportion of one-third of muskets to two-thirds of pikes exceeded in the direction of increasing the proportion of the former weapon. In 1567, when Alva brought a Spanish army from Lombardy through the Rhineland to Brussels to coerce the Netherlands, it was remarked with surprise that one regiment consisted entirely of musketeers. This was probably because Alva looked forward to having to use them in garrison duty in the fortresses, where the musket was more useful than the pike, until the last stage of the defence. This army was made up of 9000 Spanish infantry, organized in four *tercios*, and 1500 Italian light horsemen. It was joined during its march by some thousands of German mercenaries.

This war in the Netherlands gave ample proof of both



the strength and the weakness of these professional soldiers, whose active years of life were spent in military service, and who looked on war as their livelihood. When the emptiness of the treasury at Brussels resulted in their pay being in arrears, they mutinied, defied their own Government and paid themselves by sacking the city of Antwerp. But the same men who were capable of this terrible outbreak of undisciplined cruelty performed deeds of arms that have never been surpassed, and that would have been impossible without a spirit of enduring discipline that no danger could shake. In the earlier battles of the war the Dutch confederates were helpless against them. At Jemmingen in 1568 Alva, with 15,000 Spanish pikemen and musketeers, forced Lewis of Nassau's levies, some 10,000 strong, to fight on ground where they were pent up by deep water on three sides. The battle was more of a massacre than a fight. Seven Spaniards were killed and 7000 of the Netherlanders. Such an exploit was little to the credit of the victors. The strength of the Dutch resistance in its later stages was in the defence of positions covered by arms of the sea or widespread inundations. It was in the attack of such places that the Spanish infantry showed what it was capable of daring and doing. In October, 1572, the Spanish commander Mondragon marched to subdue the rebels in the island province of Zeeland. He had 3000 Spanish infantry with him. He surprised the town of Tergoes in South Beveland by crossing the arm of the sea, ten miles wide, which divides the island from the mainland. His column waded across at ebb tide, but as they marched the soldiers were up to their breasts, and even to their shoulders, in the sea, the musketeers holding their powder horns, muskets and matches above their heads.

This exploit was accomplished by daylight, and there was no opposition during the crossing. Three years later a still more daring march through the sea was made amid darkness and storm, and harassed by active enemies.

Mondragon was again among the leaders, but the commander-in-chief of the enterprise was Don Osorio d'Ulloa. Its object was the capture of the islands of Duiveland and Schouwen, the possession of which by the Dutch barred access to the Scheldt. The column of attack was made up of 1000 Spaniards, 1000 Walloons and 1000 German mercenaries. The starting-point was the island of Philipsland, near Tholen. It had been discovered that across the broad strait between Philipsland and the opposite shore of Duiveland there was an underwater ridge which, except at high tide, was nowhere more than four or five feet under water. On the night of 27 September as the tide ebbed the 3000 entered the water in a long column, led by Don Osorio, accompanied by local pilots, who felt their way sounding the water with poles so as to keep to the narrow ridge. A start had hardly been made when a storm of thunder and lightning broke over the strait, and the men, struggling along the submerged track with the water sometimes rising to their necks, soon found that the lightning flashes had revealed their presence to some Dutch craft that were cruising in the channel. The Dutch boats came up and fired on them, or even closed in and pulled them down with their boat-hooks or killed them with pikes. They could do little to defend themselves, but they plodded on through the swirling sea and the driving rain heedless of their losses. Yet these were serious enough. Not only were many lives lost by the attacks of the Dutch boats, for a man who was wounded or even struck heavily with pike or boat-hook inevitably sank in the sea and was drowned, but also many missed their footing on the narrow underwater track and disappeared in the dark waves. This march through the sea is an unparalleled exploit. One of the greatest dangers of a night march on dry land is to keep direction and order and prevent excitement and panic. What must have been the iron discipline and determination of the 3000 who thus made their way through the waves in this stormy night exposed to unceasing attacks and

continual loss! Once they reached Duiveland everything gave way before them. The defenders of the island felt that they were facing men who had achieved the impossible.

It was soldiers of this stamp who made up the armies of Alexander Farnese, Duke of Parma, the greatest captain of his time, and the destined commander of the invasion of England if the Spanish Armada of 1588 had been able to obtain command of the Straits of Dover for a few days. One realizes from what a danger the fleet of Howard saved England, when one tries to imagine what a battle would have been fought on English ground between 20,000 or 30,000 of these iron veterans and the ill-trained levies that Leicester had got together for the emergency.

During this period a remarkable change took place in the armament and tactics of cavalry. Hitherto the lance had been the chief weapon of the horseman. But by the end of the sixteenth century it was being abandoned throughout Western Europe. Here and there it made a chance appearance in the first half of the following century, chiefly in irregular warfare. Thus there was a handful of lancers in the battle of Marston Moor. But regularly organized troops would have none of it. It disappeared until the fame of the Polish and Cossack lancers in the Napoleonic wars brought it into fashion again in the nineteenth century.

Perhaps it fell into disuse on account of the rise of the "stands of pikes"—the masses of pike-armed infantry—into the accepted position of constituting the main strength of the battle line. Steady infantry with the twelve or fifteen-foot pike could defy the best lance-armed horsemen to break them, and the cavalry leader found in new weapons the suggestion of a more effective plan of attack. The fire-arm of the mounted man was a heavy pistol, almost a carbine, known as a poitrinal, or petronel, because it was fired with the hand propped against the breast. The carbine proper came somewhat later. The lance was laid aside and the pistol took its place. Cavalry charged by trotting up

to the line of pikes and firing their pistols when almost upon them, then dashing the empty weapons in the faces of the infantry. It was hoped that this volley of bullets and pistols would make a gap in the line here and there, and into these gaps the horsemen pressed with drawn swords. It sometimes was a successful expedient, but not often, and never against steady troops. Yet the practice lingered long in many of the Continental armies, and as late as the battle of Dettingen in the days of George II a French cavalry regiment rode at a British square, firing shots and hurling horse-pistols, only to be sent galloping away under a rain of bullets.

Artillery played a very small part in the battles of this transition period. It was not mobile enough for tactical use. It was the weapon that at last broke the long record of victory that had made the Spanish pikemen believe themselves to be all but invincible. This was the exploit which established the military reputation of the young general who was afterwards known as the Great Condé, and inaugurated a long period of success for the French arms. At the battle of Rocroi (19 May, 1643) Condé beat off the charges of the Spanish horse and drove in their musketeers behind a great square of pikemen that formed the centre of the battle line. The pikemen held their own firmly against the fierce charges of the victorious French cavalry, but Condé brought up some light cannon and opened on the square at short range. Through the gaps thus torn in the wall of armoured pikemen the French broke in, and once inside the hedge of spear points the horsemen had the Spaniards at their mercy. The long pike was useless against the mounted swordsman once the line was broken. It was an admirable example of the combined action of artillery and cavalry, but strange to say it was long before such co-operation was again attempted on the battlefield.

But before Rocroi was fought and won Germany had for many years been the scene of the endless campaigning



PIKEMEN

1. Pikeman standing at ease
  2. Pikeman in position to resist cavalry : pike held with point low, butt against left foot—right hand on sword ready to draw if the pike gives way
- (From De Geyn's "Haffenhandlung," 1608)

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and fighting of the first stages of the Thirty Years' War, and had seen a great soldier breaking away from tradition and applying sound common sense to the methods of the battlefield. The Swedish King Gustavus Adolphus was a born leader of men, and had besides something of an inventive genius in matters of tactics. In the Swedish army, which he brought into Germany, and which until his untimely death at Lützen seemed likely to be the deciding factor in the quarrel, he had introduced marked improvements in armament and drill that made it a better fighting machine than any force that was ever opposed to it. Gustavus realized the importance of fire as opposed to shock tactics for infantry. He had the open mind that welcomes mechanical improvements. He set his armourers to work to lighten the musket so as to make it a more handy weapon and to dispense with the clumsy rest. He substituted the use of cartridges for the powder horn as a safer and more rapid method of loading. Finally, he did away with the matchlock and adopted the wheel-lock musket, in which the action of a coiled spring and trigger set a steel wheel revolving so that it ground upon a piece of pyrites or flint and sent a shower of sparks into the priming of the pan. The musketeer had no longer to march with a long smouldering string of slow match hanging from his bandolier, and it was easier to bring musketry into action even in a drizzle of rain.

Hitherto the problem that gave most trouble to commanders of infantry was the combination of pikes and muskets in the battle line. The musketeer had not yet developed a rapidity of fire that would enable him to protect his front against a cavalry attack, and he was comparatively defenceless at close quarters. Hence the various devices of small bodies of musketeers interposed between solid masses of pikes, or lines of musketry thrown forward with instructions to run back behind a sheltering hedge of pikes when attacked by horse. To mingle pikemen and musketry in the same line was to weaken the

array when cavalry charged home against it. Later on the invention of the bayonet solved the problem definitely by combining musket and pike in one weapon. But this was still in the future. Gustavus found a common-sense solution for his own time, a solution so simple that one wonders that it was so long in coming, and that it was so seldom imitated after his death.

He organized his infantry in brigades of 3600 men. In each brigade there were two regiments of 1800 men, organized in eight companies. The company was made up of 72 musketeers and 54 pikemen. The battle order was a line three deep. This gave a front of 42 men. All the front rank was made up of pikemen. This left enough pikes to form a guard of six men on the flanks of the other lines, which were made up of the 72 musketeers formed two deep. The pikes thus formed a hedge which protected the musketeers, and with the front line kneeling, the muskets could be fired over their heads. The infantry in battle was formed in two of these three-deep lines, each regiment in the first line having another to support it in case the front was anywhere broken. Further, to strengthen the fire effect of the infantry, two light field pieces were attached to each regiment. They were meant for fighting at close quarters. They could be run forward by hand, and their projectiles were what was later known as canister and grape, bags and cases of balls and broken metal. These regimental guns were the first regular appearance of artillery as an aggressive weapon and an immediate support to infantry fire.

One sees the growing importance of fire in the larger proportion of musketeers that Gustavus placed in his battle line. Roughly, he had seven muskets to five pikes. The Spanish generals in the great days of the Spanish infantry regarded four muskets to eight pikes as the right proportion.

Cavalry formed a large part of the armies of the Thirty Years' War, and they now carried fire-arms. But much as



he believed in fire effect, Gustavus abolished in the Swedish army the trot up to the enemy's line with pistol firing and throwing as a prelude to riding into it. He insisted that this was the ruin of a real cavalry attack; that in the charge the horseman must use his mount as his best weapon, and trust to the shock of the knee-to-knee charge to break the enemy's array. His cavalry charged in three lines with sword in hand, and were taught to trust to the first line closing with the enemy and so shaking them that the others as they came up could force their way through it.

The Imperialists, to whom he was opposed, kept to the method of placing their infantry in a number of heavy columns in the centre of the battle line. Cavalry formed the wings and the reserve. A few guns were placed in the intervals of the line chiefly for defensive purposes. The Swedish array was a much more effective formation, and its heavy fire from a long front of musketry and cannon guarded by pikes made it the most formidable opponent a German army had ever met.

But even in the more flexible Swedish array infantry still moved and manœuvred very slowly. Great improvements in drill were made during the Thirty Years' War, but even so the foot soldiers of the seventeenth century moved at what a drill sergeant of to-day would denounce as a snail's pace. The greatest improvement was one of those absurdly simple things that seem obvious to us now, but which, all the same, it took a long time to find out and a long time to induce old-fashioned soldiers to adopt. The great masses of pikemen of the sixteenth and the earlier days of the seventeenth century changed front and ground by each man turning where he stood in the required direction, and then the whole mass moving to the new front. A wheel or an oblique march was impossible. It would have disordered the whole column. To move a mass of pikes to a place diagonally to its right front it was first ordered to turn to the right, and then marched till it was opposite the desired position. Then there was an individual

left turn and a move forward to the appointed station. It was a march along two sides of a right-angled triangle instead of the shorter move along the third side. The discovery that changed all this was that a large body of men is best manœuvred by organizing it in small units and substituting the successive wheel of fractions of the whole for the clumsy movement in mass. The company organization and line array of the Swedish infantry was based on some approach to modern drill methods.

Cavalry movements were also simplified. A man can turn on the ground where he stands. A horse standing side by side with other horses needs some space for a turn to right or left. To move a body of cavalry to a flank without breaking up the array was a complicated business until someone hit on the expedient of making the mounted men work in groups of three or four. Three or four horses abreast cover roughly a square piece of ground, and can be turned together in this space. Once this device was adopted cavalry could change formation, front and ground fairly rapidly.

In any case they could move much more quickly than even the best infantry. So the flank attack was necessarily reserved for them. The normal battle array of the Thirty Years' War and of a century and a half after it had dragged to its end was a mass of cavalry forming each of the wings of the army, with the infantry in the centre. Most of the generals of the time regarded the infantry as a support for the horse, a solid wall behind which it could rally if there was any mishap. The main event of the battle was the cavalry charge. It was directed in the first instance against the horsemen forming the opposing wing of the enemy. If these were routed the natural thing for the victors would be to fall upon the exposed flank and rear of the infantry in the enemy's centre. But there was so little of real tactical knowledge and of the spirit of combination among the various arms that as often as not the successful charge was followed by a headlong pursuit of

the routed cavalry of the enemy that had the effect of, as we would say now at manœuvres, putting the victors themselves out of action, by carrying them far from the battlefield.

There were instances of this folly in the English Civil War of the seventeenth century, in which most of the professional military knowledge possessed by the leaders was like that of Scott's "Major Dugald Dalgetty," derived from the methods of the Thirty Years' War. At Naseby Prince Rupert, a typical German soldier, scattered the Parliamentary horse that were opposed to him under Ireton, and then, instead of charging the enemy's centre, rode far from the field in pursuit. On the other wing Cromwell defeated the Royalist cavalry with the charge of his Ironsides, but instead of leaving the field in pursuit remained to destroy the Royalist foot in the centre. Rupert, returning all too late to the field, could only cover the flight of King Charles from his last battle.

Cavalry as the mobile arm was thus the only means of threatening or attacking the flank of the battle line, and it was thus still so important, notwithstanding the growing power of infantry, that the general who commanded in chief, instead of directing the battle from a central point under the protection of his infantry, frequently took personal command of one of the wings. To command cavalry was to lead them in the charge. So it was likely that he would find himself no longer directing the course of the battle as a whole, but fighting like a trooper in the midst of a cavalry *mêlée*.

It was thus that Gustavus met his death at the battle of Lützen in 1632, an accident that changed the course of history. In the early morning while the fog lay heavy on the field he set his army in array and gave his orders to his officers. Then, instead of remaining in the centre of his line, he rode off to the right wing and put himself at the head of the cavalry there. When at eleven o'clock the fog partly dispersed and the lines of Wallenstein's army came

in sight, the signal for the advance of the Swedes was a charge led by Gustavus in person against the Imperialist left. He drove back the cavalry that opposed him, and as he did so the Swedish centre moved up, firing with musket and cannon, and broke into the left centre of the enemy. Wallenstein flung his reserve cavalry into the fight to check the Swedish advance, and Gustavus rode to its support, but among clouds of powder smoke and drifting fog he became separated from his followers and rode into a body of Croat horse. Fired at point-blank, he fell mortally wounded with his horse dead beside him. The Croats, without any idea of the importance of their victim, rode on, and then Pappenheim's Austrian cuirassiers came up and one of them noticed what he took to be a wounded officer, and, perhaps for the sake of plunder, dismounted and shot him through the head. The Swedes won the battle, but they had lost the one man that really counted as a factor in the quarrel. An unfortunate accident had made the victory all but worthless. We have learned since then that there is better work for a commander-in-chief than doing the duty of a cavalry colonel.

Neither his opponents nor his allies learned much from the methods of Gustavus. They clung to the old ways. The chief change in the armies of the later years of the Thirty Years' War was the gradual adoption of the wheel-lock and the still better flintlock musket. There was a monotonous sameness about the battles. The same array of pikes and muskets in the centre and horse on the wings, the same direct clashing together of the opposing lines with little attempt at manœuvre beyond the occasional attack on the flank of the infantry by cavalry that had routed its immediate opponents. The war slowly dragged to an end after it had ruined Germany for years to come. The armies, chiefly composed of mere mercenary troops, were as formidable to friends as foes. They ate up every district in which they marched and fought, and destroyed more than they used. Prussia, the ally of Sweden, long

remembered as a time of utter misery the days when even the well-disciplined army of Gustavus was quartered within its borders. It was still worse when a district had to endure the hostility or the protection of the mixed armies that followed the banners of Wallenstein and Bernhard of Weimar, Tilly and Pappenheim. The exhaustion of Germany by the long war and all its miseries prepared the way for the military predominance of France during the next half-century.

## CHAPTER VIII

### THE WARS OF LOUIS XIV

**C**ONDÉ'S victory over the Spanish infantry at Rocroi, won in the first days of the long reign of Louis XIV, inaugurated a brilliant era of success for the arms of France. It was during this long period of French military ascendancy that the bayonet was invented. It was the most important improvement in the armament of the foot soldier since the introduction of fire-arms. It enabled the infantryman to convert his musket into a short pike, and thus made it possible to abolish the distinction between pikemen and musketeers, and to fuse the two arms into one. This swept away the complicated problems of tactics and drill that arose from the necessity of mingling in the battle line pikemen and musketeers, the latter for fire effect, the former to protect them against cavalry charges and to carry through the attack at close quarters when the infantry advanced. The musketeer armed with the bayonet could defend himself against the rush of horsemen, and on the offensive deliver the bayonet charge. This was before long the move by which the foot soldiers decided the event of a battle.

The first bayonets were made about 1640—probably at Bayonne in the south of France. In its original form the bayonet was a long stabbing weapon, which was fixed by inserting its rounded shaft or handle in the muzzle of the musket. Once the bayonet was fixed this ceased to be a fire-arm. More than forty years later there was a great improvement—the invention, it is said, of the Scotch



A MUSKETEER FIRING FROM THE REST  
(From De Geyn's "Waffenhandlung," 1608)





general Mackay. In its improved form the bayonet was made with ring or sleeve that could be slipped over the fore part of the musket barrel and locked to it by a spring or catch. It was joined to the ring by a piece of bent steel, so that when it was fixed it was sufficiently clear of the axis of the barrel to allow the musket to be loaded and fired.

The musket itself had been improved not only by the general introduction of the flintlock, but by making the whole weapon less cumbrous. Gunsmiths were now able to make barrels with less metal in them, and yet by better workmanship safe enough to use, and the stock was also lightened. Up to nearly the middle of the seventeenth century the musket had been so heavy that it was difficult for a man to bring it to the shoulder and take aim without the help of a "rest," a long staff stuck in the ground in front of him, with a fork at the top of it in which the muzzle of the musket was supported when in firing position. A cumbrous weapon like this would have made bayonet fighting slow and awkward work, but the improvement of the infantry weapon had prepared the way for the introduction of the bayonet.

The lighter and handier musket was also easier to load, all the more because paper cartridges had now been introduced. This made it possible to abandon the complex drill of ranks of musketeers advancing and retiring through the intervals of the lines so as always to have a front rank ready to fire while the rest were in various stages of preparation for so doing. Gradually the battle order for infantry became an array in three ranks. The men stood shoulder to shoulder, so that when bayonets were fixed each man was protected by those beside him, and the line presented an even array of steel points to an enemy.

Gun-carriages had been improved so that artillery was more easily moved from position to position, but the number of pieces was still comparatively small. Artillery was as yet an auxiliary arm on the battlefield. Its chief part in war was still in the attack and defence of fortified

towns. With artillery yet in this rudimentary stage and infantry slowly developing its power, cavalry was a large element in most armies. Though the load carried by the horse had been greatly diminished with the disappearance of any attempt at full armour protection, the weight of an armed rider and a cumbrous saddle was still considerable ; the mounts of the rank and file were not as good as those of to-day, and this, with the recognized necessity of delivering a charge with the riders in ordered lines, knee to knee, so as to bring the full shock simultaneously upon the enemy, resulted in the attack of cavalry never being carried through at anything more rapid than a brisk trot. It was not till the middle of the eighteenth century that, with the improvement in the breed of horses and the better training of horse and man, it was possible to deliver a cavalry charge at the gallop.

Condé's victory at Nördlingen in 1645, when France had intervened in the last stage of the Thirty Years' War, may be taken as a typical action of the period. Condé, with Turenne as his lieutenant, commanded the French army, which included a contingent of Hessians and a large body of Weimar cavalry. The army of France was, in fact, Franco-German. The opposing force under the Bavarian General Mercy was made up of South Germans, with a contingent of Austrian cavalry.

The battle helped to decide the result of the war, and was one of the ~~most~~ famous of Condé's victories, but if judged by mere numbers engaged it was a small affair. Condé had 17,000 men with him, Mercy only 14,000. On both sides there was about two-thirds cavalry to one-third infantry. There were eleven guns on the French side, twenty-three on that of the Bavarians. The battle was fought in a haphazard kind of way, and Condé narrowly escaped defeat.

Mercy occupied a rise of the ground with a front of about two miles long, and a low hill with easy slopes at each end of it. In the plain in front he occupied and pre-

pared for a defence the village of Allerheim. He had begun to entrench the ground, but had done little work before he was attacked. When the French reconnoitred the position Turenne thought it too strong for attack, but was overruled by his chief, young Condé. Napoleon in his criticism of the action says that Condé was wrong, and courted defeat in attacking Mercy with an army composed chiefly of cavalry and with so few guns. Mercy arrayed his army according to the custom of the time—two battalions and four guns to hold the hills on each flank, the rest of the foot in two lines of columns in the centre, General Glein with the Austrian cavalry on the right, Von Wert with the Bavarian horse on the left, three battalions pushed forward to hold Allerheim.

Condé also drew up his army in three bodies, centre or *corps de bataille* and two wings. He formed up his battalions and squadrons in the plain on a parallel line to the Bavarian army, without the remotest idea of providing for a superior striking force at any point. He only departed from the regulation pattern of a battle line in the small detail of placing a detachment of infantry in the second line of each of his wings. The Comte de Marsin in the centre had a single line of infantry columns, pikemen and musketeers. Four guns in front were pointed at the houses of Allerheim, which by this time had been occupied by infantry from the enemy's centre. The left wing under Turenne was composed of German troops, mercenaries and allies. In the front line were the Weimar cavalry. In the second the Hessians—horse and foot. The right wing under the Marshal de Grammont was composed almost entirely of French cavalry. A few squadrons of mounted gendarmes and carbineers formed a reserve behind the centre.

The battle began at five o'clock on a summer evening by Condé opening fire on Allerheim with his cannon. De Marsin's infantry then advanced to storm the village. For more than an hour there was a desperate fight with

pike and musket in and around the place. It was characteristic of the time that both generals flung themselves into the struggle for Allerheim. Mercy was killed, though the French were beaten off.

After this first failure Condé, about six o'clock, ordered De Grammont with the right wing to attack the enemy's left. But as the French squadrons advanced, Von Wert charged down the slope and drove De Grammont back upon his second line. The infantry support was swept away in the mass of broken disordered cavalry, and Von Wert, flushed with victory and thinking only of what was before him, pressed along the plain in hot pursuit of the beaten French, instead of rallying his squadrons and bursting like a storm on the flank of the already shaken centre.

Condé had failed in the centre, and his right wing had been swept from the field, but he was one of those men who do not know when they are beaten. He spurred to his left and ordered Turenne to attack the Bavarian right with the Weimar cavalry. Napoleon's comment is worth noting. An ordinary man, he says, would have used his unbroken left wing to cover an immediate retreat, but "daring obstinacy" is often the quality that wins success in the most desperate circumstances. Condé was daringly obstinate, and Turenne responded to his call. He rode at the Weinberg slopes, swinging round his extreme left to gain the flank of the hostile line. Glein, unlike Von Wert, awaited the attack. As the German troopers trotted up the hillside the enemy's guns opened on them, first with ball and then with grape. Turenne, struck full in the breast by a grapeshot at close quarters, owed his life to the good quality of his steel cuirass. At the head of the Weimar men he dashed in among the guns, and then rode for the Austrian cavalry, who made the mistake of receiving him with volleys of pistol and carbine shot instead of counter attacking. There was a brief *mêlée*, which was decided in favour of France by Condé in person bringing up the

Hessian cavalry to the help of his comrade. The Imperialists were driven down the hill towards the river, and Glein was unhorsed and taken prisoner. But Turenne was too good a soldier to pursue the broken enemy. Rallying his squadrons, he changed front to his right and charged the flank of Mercy's centre, rolling up the line. Then with a second change of front he rode for Allerheim.

De Marsin had remained in action against the south side of the place, keeping up a long-range fire. The garrison, at least four battalions, could certainly have held out for some time against a renewed attack. But seeing the rout of their own centre, and Turenne with the Weimar horse closing in upon their rear, while the French fire continued in front, they surrendered at once. They had no idea that succour was approaching. Johann Von Wert had at last given up the pursuit, and rallying his squadrons, rode back to the battlefield. If he had marched directly on Allerheim or attacked De Marsin he might have saved the situation ; but like a matter-of-fact routine soldier his one idea was to return to his original post near the castle and then see how matters stood and act accordingly. He moved up by the Nördlingen road, losing a valuable half-hour by taking this direction. As he neared the height he found that the French were in possession of Allerheim, and Condé's squadrons were in the centre of the main position with the wreck of the infantry and broken masses of cavalry retiring before them. Johann Von Wert lost heart at the sight. The sun was going down, and he was glad of it, for it was easier as the darkness came on to draw off what was left of the army along the Wernitz towards the Danube at Donauwörth. He left fifteen guns in Condé's hands. Both sides had lost heavily in the brief, stubborn fight, which Condé had won in spite of the judgment of two great soldiers that he ought to have been defeated.<sup>1</sup>

<sup>1</sup> Napoleon held that Condé owed his victory not only to his "daring obstinacy" and Turenne's brilliant conduct, but also to Mercy's death, Von Wert's mistake, and the surrender of the

Such was the great victory of Nördlingen. There is no need to point out the contrasts with an engagement of the Napoleonic period or with the gigantic battles that decide a campaign in our own day.

But the whole conduct of war in those days, when France was gaining victory after victory and soldiers like Turenne and Condé, Villeroi and Vendôme, Luxembourg and Villars were winning fame for themselves and glory for the "Grand Monarque," was utterly different from what is in our time. The nations of the Continent of Europe are now organized to put the great mass of their manhood under arms in the field within a few days of the declaration of war. The change from a state of peace affects at once every household and is felt in the remotest parts of the national territory. And the object of the commander on each side is as quickly as possible to direct enormous armed and organized multitudes against the main mass of the enemy's forces, and destroy the opposing army in a series of gigantic battles. Such wars cannot be lightly undertaken, and they cannot drag on for year after year without a decisive result. Everything is staked at once upon a few throws, and the fight once begun goes on through summer and winter, day and night.

In the wars of the seventeenth century it would have been impossible to command, move and feed the vast armies of to-day. Relatively small forces, chiefly composed of men who made soldiering the business of their lives, were marched by the few roads available to attack one or more of the elaborately fortified towns that formed units in the enemy's frontier barrier. The reduction of

garrison of Allerheim. He notes that at the time it was not considered disgraceful for troops to surrender on the battlefield when surrounded, but he adds that such conduct should be held to be a betrayal of his honour by a soldier and should be punished with death. In the open field a commander is never in the position of the commandant of a besieged fortress, and in the midst of a battle, though cut off, he must fight to the death, and such a desperate defence will always be good service and will often end in his holding his own till succour arrives.

even one of these fortresses would often be considered sufficient result for a whole campaign. While one corps carried on the siege, the rest of the army would take up a position to protect the operation by keeping off any relieving force. The object in view was not the destruction of the enemy's mobile forces, but the piecemeal occupation of his territory. Battles were fought to maintain a siege or to compel an enemy to abandon it.

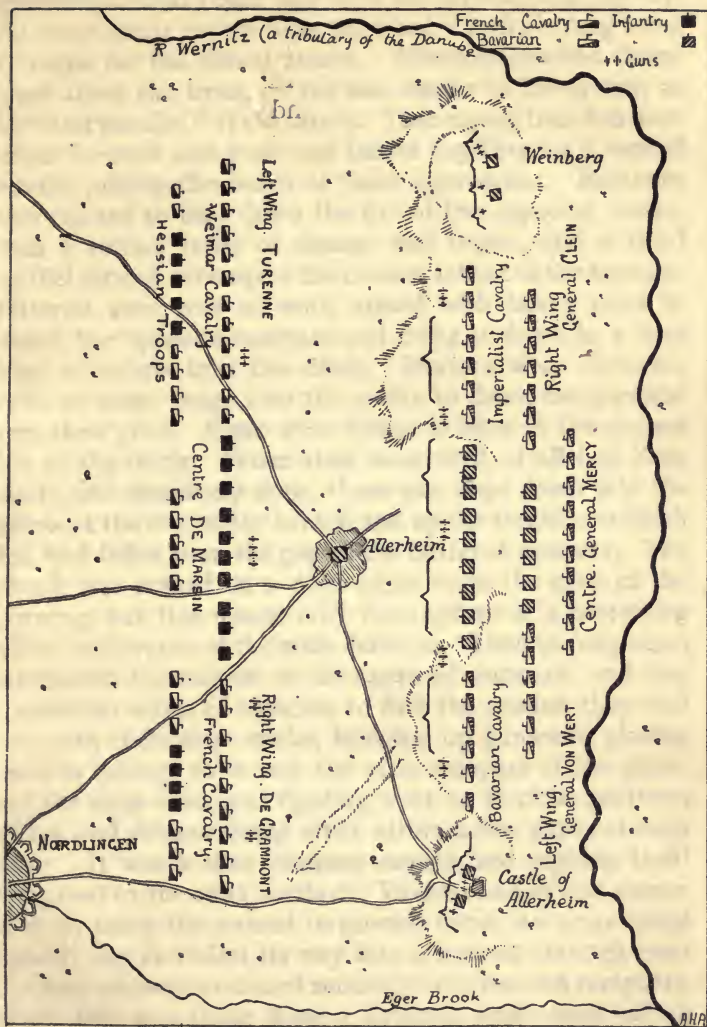
Operations in the depth of winter were regarded as almost impossible and were rarely attempted. This was not because the men of the day were wanting in endurance, but because most of the roads became pathless quagmires after the first rains, and the movement of supply columns was out of the question, even if armies could have marched with their cumbrous trains of artillery. Beyond the fact that it increased the general taxation, war affected only certain districts and a limited number of men. If success made the enemy's territory the scene of the operations, the victorious country did not greatly feel the strain of war during its first years. At the end of the autumn there was a tacit truce. The opposing armies went into cantonments in towns and villages, or were housed in standing camps of huts. Generals, officers and "gentlemen volunteers" of rank obtained leave of absence and spent the winter at court or in their homes.

And instead of being a series of operations directed against the enemy's field armies, a war tended to become a series of sieges. In the middle of the seventeenth century a siege was usually a very elaborate blockade. The besieging army entrenched itself before the place, and then proceeded to extend its lines all round it, covering every approach with strong works and linking these together by a continuous series of earthworks and palisades. During this stage, before the so-called line of circumvallation was complete, there would be attempts to run convoys of supplies into the town, and these would lead to fights sometimes amounting to the dignity of a battle. Having

completed the circumvallation the besiegers would perhaps set to work to erect a second line of works, not nearer the fortress but further from it. The object of this second line was to prevent convoys or additional defenders being brought into the town by main force. It was known as the "line of contravallation" by the French engineers. It was a great ring of earthworks and barricades, fronting outwards. When this was complete the besiegers found themselves entrenched in a double ring, fortified against the sorties of the garrison inside and the attacks of relieving forces from outside. In their great fortified ring they waited patiently till the town was starved into surrender.

It is no wonder that sieges carried through on this system occupied all the fine-weather months of the year, so that the reduction of a single fortress was the whole result of a campaign. More effective, swifter and scientific methods came into use when, in 1667, Louis XIV declared war against the House of Austria, to enforce the claim he put forward to the Spanish Netherlands in alleged right of his wife. The whole plan of campaign turned on the capture of the range of fortified towns that formed the frontier barrier of the coveted territory. But there were no longer long blockades, lines of "circumvallation" and "contravallation" and surrender by starvation. A new man had come to the front with new methods. Louis had for his chief engineer officer the famous Sébastien le Prestre de Vauban. Before the war Vauban had been engaged in strengthening the fortifications of Dunkirk, drawing around it on the land side the tangled maze of works that was the delight of the military engineer of those days, and for long after. Placed in charge of the King's siege operations, he elaborated an equally complex system of attack. Having made the lock he showed how it could be neatly picked. No longer was it necessary to fortify a whole circle of besieging lines around the place and to accumulate a force outnumbering the garrison by six or seven to one. All that was necessary was to watch the various approaches with





### BATTLE OF NÖRDLINGEN

Aug. 3, 1645



UNITED STATES OF AMERICA  
 SHOWING STATE BOUNDARIES, MAJOR CITIES, AND GEOGRAPHICAL FEATURES  
 (Map title and descriptive text, partially illegible due to fading)

detachments that could deal with an approaching convoy, and concentrate on the selected front a fairly strong force of troops for the actual attack. These entrenched themselves along the front, on the line known in his system as the "first parallel" of the attack. Then zigzag trenches were driven forward and presently linked together by a second parallel joining the heads of these approaches. Batteries were erected to beat down the fire of the opposing works. Then a second series of zigzags was begun, and a third parallel formed close up to the nearest salient of the fortress. Batteries were now at work armed with heavy guns to breach the opposite rampart and bring it down in a long slope of debris into the ditch. Mortars were throwing shells at short range into the works to drive the garrison from their guns. Mines were driven to blow in the nearest side of the ditch. When they were fired, if all had been neatly and effectively done, there was slope down into the hollow at the foot of the breach and up the tumbled rubbish that had fallen from the gap in the battered rampart. The breach was rushed on a dark night or in the grey of the morning, but this meant only the capture of a projecting salient in advance of the main defences. Then the engineers entrenched themselves in the captured outwork, and dug a sheltered series of trenches to link the ground they had won with their siege works, bringing up guns and placing them in battery to breach the main rampart of the place, and the siege work and fighting went on at close quarters, attack and defence being often within a few yards of each other. It was a slow business enough, but rapidity itself compared to the older method. Vauban had in fact shown how, by using the ground to provide cover, an army could steadily dig and blast its way into a fortress through even the most elaborate maze of successive ditches and ramparts. While this was being done a covering army kept off all attempts at relief. If a battle was fought it was usually between this army and the would-be rescuers of the besieged town.

The King took his fair share of danger in the sieges and battles of the earlier campaigns of his reign. But the danger, real though it was when the chance of war brought a leader to close quarters with the enemy, was not the continuous all-pervading peril of the modern battlefield. At 300 yards from a close fight one was safe even from stray bullets ; at 1000, a little over half a mile, one could watch in security the fire of hostile batteries.

In the sieges outworks in advance of the main rampart might be stormed, but it was rarely that the place itself was carried by an assault on a grand scale. Once the main rampart was breached and a gap lay open for the storming columns it was considered that the commander of a fortress might surrender without dishonour. Sometimes in these wars of the Grand Monarque the fall of a fortress was made a show for the Court. Vauban would announce that by a certain day he would have carried his siege works up to the body of the place, and a breach in its ramparts would be " practicable." The King would travel to the besieging lines, and with him would come a crowd of fine ladies and noble gentlemen, with a host of lackeys and a long train of lumbering carriages. There would be a review of the troops destined for the assault, but before it was delivered a last summons to the garrison would be answered by an offer to surrender on honourable terms. Then there would be the fine spectacle of the garrison marching out " with the honours of war," drums beating and colours flying, to lay down their arms after exchanging salutes with the royal troops ; and then would come the state entry of the victorious King into the captured town. The Court saw all this theatrical side of war. But they saw nothing of the horrors inflicted on whole districts, which were eaten up by hostile armies, plundered in the name of military contributions, perhaps deliberately laid waste to make them useless to an opponent.

As most of the battles of these campaigns in Flanders were fought to raise a siege or to keep off the relieving army,

the use of siege works to such a large extent in the general course of the campaign naturally led the army that acted on the defensive to strengthen at least part of its position with entrenchments, but these were of a more elaborate character than the shelter trenches and gun-pits that a modern army constructs in a few hours along its front, and as often as not the attacking general manœuvred to avoid a direct advance on the prepared position, and considered he had achieved a solid success if he could march round it and so force its abandonment perhaps without firing a shot. The idea that war was not the mere occupation of ground or the manœuvring of an enemy out of his position, but implied a conflict of opposing forces in battle with the object of destroying the enemy's fighting power, had not yet passed into the current military thought of the time.

When pitched battles were fought it was nearly always on a stereotyped plan. The forces engaged were not large. The general in command of an army in battle array could see the whole of his line and send orders to any part of it by a galloper in a few minutes. At the same time he could see the whole array of the forces opposed to him, and the distance between the hostile lines was so small that the unaided eye could distinguish the uniforms of the various regiments and even identify individuals. The cavalry was much more numerous in comparison with the infantry than it has ever been in recent war. It was arrayed in masses on flanks of the infantry. These were drawn up in successive lines of battalion columns, the first of them deploying into a three-deep line, when the battle opened, in order to allow the men to use their muskets. The few guns with the army were placed in the intervals of the infantry, and often accompanied the attack in its advance. Shells could only be fired from mortars, and were used only in sieges. On the battlefield the artillery projectile was the cannon ball, a round iron shot which ricocheted for a considerable distance after its first graze on the hard ground. Grape-shot, a number of small balls in a bag or held together by

a binding of cord, was used at close quarters. But the part played by artillery was not very important. It was not yet the battle winner.

For the decisive attack commanders counted on the charge of masses of cavalry, or the advance of infantry, firing as they came on in a succession of short movements and intervening halts, and then charging home with the bayonet. In some respects the infantry attack required a steadier nerve, a more complete training and a more rigid discipline than its modern equivalent. Fire was sometimes opened at the close range of fifty or sixty yards. To fire at anything over a hundred was to waste ammunition. The opposing lines had thus to stand up to each other at a range at which the old musket with its heavy bullet was, if anything, more deadly than the modern rifle at its longer range. The men stood shoulder to shoulder. As a man dropped under an enemy's bullet his place was at once filled from the rear ranks. The bayonet advance was made as the fire of the opposing side slackened under continued losses. It was not often that bayonets were actually crossed. The weaker side, already shaken by fire, gave way before the onset of the bristling line of steel without waiting for the actual shock. Then was the time to launch the cavalry upon the retiring enemy and complete his destruction. The art of the commander was to support or replace broken troops with fresh reserves, make his units work together, and use his cavalry to meet and parry the attacks of the opposing horsemen.

For close fighting in the storming of the outworks of a fortress, or a barricaded post or village, a special type of foot soldier was trained to use a new weapon. This was the hand grenade, a small explosive shell, with a fuse lighted by blowing upon and applying a slow match before throwing it. Tall, long-armed men were selected for this service, and were distinguished by a special head-dress adopted not merely for show, but with a practical purpose. The usual infantry head-dress was the broad-flapped hat, sometimes

looped up so as to make it three-cornered. The flap of the hat would have been in the way of the forward swing from the shoulder with which the grenade was hurled over a barricade or rampart. So the grenadier was given the tall mitre-like head-dress still worn by the Prussian Guards on ceremonial days, or the tall bearskin cap that is the distinguishing head-dress of so many corps of guards in the European armies of to-day. The pouch to contain this store of grenades and the tall cap marked the grenadiers. They were, as the old song puts it, the men

“Who wore the caps and pouches.”

They also carried an axe for demolishing stockades. Grenadier companies were formed of the tallest men in line regiments, and special grenadier corps were enrolled. A battalion of grenadiers was usually to be found acting as a royal guard. Companies of horse grenadiers were raised to act with the dragoons, like them marching on horseback and fighting on foot. As the grenade went out of use in the eighteenth century “grenadier” came to mean little more than a soldier selected for his height—a “good, tall fellow,” who was trained to be also a good man-at-arms.

It is no wonder that with battles thus fought at close quarters losses were proportionally much heavier than they are with the more efficient weapons of to-day. Modern developments in the direction of making the soldier a difficult target at long range have taken away much of the picturesque character of the battlefield. The armies of the sixteenth century, and above all the armies of the Grand Monarque in the days of Condé and Turenne, Villeroi and Villars, were set in battle array with a profusion of colour and decorative display such as is now not to be seen even at a ceremonial review on some great occasion in the times of peace. The officer's dress was almost a Court costume. Generals and cavalry officers still wore the bright steel cuirass. The various regiments

wore elaborate uniforms with a great variety of colour. In the French army many of the infantry regiments wore the special colours of the provinces to which they belonged. A French battle line showed a considerable number of red-coated battalions and squadrons, for all the foreign regiments in the royal army of France were clothed in red, with distinctive facings. Thus the German mercenary corps, the Swiss Guards and even the regiments of the famous Irish Brigade were all uniformed in red. There were also white, blue, green and orange-coated units. Every company and squadron had its standard or battle-flag. Till a few years ago there was in our own army a trace of this custom (long obsolete) in the fact that the junior officer of an infantry company was known as the "ensign." He was originally its standard bearer. The large number of colours reported as captured in seventeenth-century battles is explained by this profusion of flags. Military bands had not yet been introduced into Western armies, but each infantry regiment had its drums and fifes, and the cavalry corps had kettledrums and trumpeters. Drum taps were used for passing orders, after the manner of the modern bugle call.

The growth of the military power of France under Louis XIV had the same result as the still greater development of that power under Napoleon more than a century later. It became the common interest of Europe to form a coalition against the predominance of a single ruler. William of Orange held the coalition together in the face of adverse fortune, but it was Marlborough who, with the help of the Imperialist general, Eugène of Savoy, broke the spell of victory that had rested on the arms of France for sixty years.

The French and their Bavarian allies had established themselves in South Germany on the campaign of 1703, and hoped to march into Vienna next year. Marlborough saw that it was in the South German theatre of operations that the decisive blow must be struck. He marched from



the Netherlands by the Rhine valley southwards, picking up on his way the allied German contingent under Prince Louis of Baden, and joined hands with Eugène on the Danube, driving the Bavarians out of Schellenberg after a hard fight. Then he moved westwards to attack the French armies of Tallard and De Marsin, which were camped between Blenheim and Lutzingen under the supreme command of Marshal Tallard.

The Franco-Bavarian army was 56,000 strong,<sup>1</sup> with sixty guns. It occupied a position about four miles long, facing eastward. Both flanks were strongly secured. The right at the large village of Blenheim rested on the Danube. The left, in front of the village of Lutzingen, was protected by thick woods impracticable even for infantry. Along the front of the gentle slope that had been chosen for defence ran the Nebel, a small stream that formed a serious obstacle, because its banks were marshy and in places overflowed by the brook. The villages, which were surrounded by walled and well-fenced gardens, had been put in a state of defence, and the ground was in many places cut up by open ditches and hedges.

Tallard's army was encamped on the crest of the gentle slope that rises westward from the Nebel, battalions and squadrons being so posted that by moving to the front they would reach their battle stations. There were really two armies united under Tallard's command, the French troops he had brought up from the Rhine, who were camped on the right, and the mixed force of French and Bavarians under the Marshal de Marsin, which he had joined in the Danube valley. The Elector of Bavaria was with De Marsin.

Marlborough had ridden forward on the morning of 12 August to reconnoitre the enemy's position. At 1 a.m. in the following night the Allies broke up their camp, and,

<sup>1</sup> Forty-five thousand were French, including foreign regiments in the French service. More than half were cavalry, 118 squadrons to 69 battalions of foot.

formed in nine parallel columns, began their march westwards through the defile between the marshes of the Danube and the wooded hills on its north bank. Marlborough's troops were on the left, Eugène with the Imperialists on the right. The combined force was an army of many nations—British, Dutch, Danes, Germans (including a Prussian contingent) and the various races of the Austrian dominions. The total numbers were 52,000 men, a large proportion of them mounted—181 squadrons of cavalry, 67 battalions of infantry and 52 guns. Most of the infantry were armed with musket and bayonet, but in several of the battalions there were bodies of pikemen. The English, Danish and Hanoverian Guards were among the infantry. The British and Irish troops formed only about one-fifth of the whole force, but they did some of the hardest of the fighting.

It was a sultry night, and even after the sun rose a dense mist rising from the marshes and spreading over all the low ground hid the approach of the Allies. In those days outposts kept close in to a camp, and there was no patrolling to the front, so Tallard was not aware of his enemy's presence till, about eight o'clock, the mist cleared and he saw Marlborough's lines forming in his front beyond the Nebel, with the red-coated régiments opposite Blenheim.

Surprise was no part of the Allied plan, and a general of those days would not think of beginning a battle till he had all his troops properly arrayed in line. The line was formed just out of long cannon range. It was the base of operations from which the troops moved forward to the actual battle. And it took a considerable time for the Allied line to form, as the columns had to wheel out of the narrow ground and reach their various posts facing the hollow of the Nebel. And Eugène's troops on the right had a long way to go over rough tracks and ground cut up with hedge, ditch and fence.

On the other side of the Nebel the French and Bavarian squadrons and battalions were now marching to their



BATTLE OF BLENHEIM

Aug. 13, 1704

landed in the early part of the century, and the first settlement was made by the early and noble landholders of the House of the West, who built up the first town. The first town of the West was on the left. The first settlement was on the left.



The map shows the first settlement of the West Indies, which was on the left. The first settlement was on the left. The first settlement was on the left. The first settlement was on the left. The first settlement was on the left.

battle posts to the sound of trumpet and drum, leaving miles of tents standing as a white background to their dark masses. Tallard, Marsin and the Elector had gone up to the top of the church tower of Blenheim to view the field, see the deployment of the Allies and hold a last council of war. To quote the words of a contemporary English account of the day :—

“ The Elector and Marsin were for drawing the army as close to the marshy ground they had in their front as possible, and not suffer a man over but on the points of their bayonets ; but Tallard (a haughty, proud Frenchman) was of a different opinion, and said that would be no more than making a drawn battle of it ; that the only way to get a complete victory would be to draw up their army at some small distance from the morass, and suffer us to come over, and the more there came over the more they were sure to kill. Neither the Elector nor Marsin could persuade him out of this notion ; they both were very much dissatisfied, and dreading the consequence, left him and went to their posts.”

Whatever truth there may be in this story, Tallard on the right and Marsin with the Elector on the left arrayed their troops on different plans, and their ideas were obviously those said to have been urged in the discussion on the church tower.

Tallard had barricaded the village of Blenheim and packed into it no less than twenty-six of his best battalions. They were so crowded together in streets, gardens and houses that many of them never had a chance of firing a shot. As if this were not enough, he added to the garrison some squadrons of cavalry, probably dragoons drilled to fight on foot. Along the crest of the slope between Blenheim and Oberglau he drew up eighty squadrons of cavalry in two lines. He wanted a cavalry fight, and he left the space in front for the Allies to cross the brook and expose themselves to his attack with the marshy hollow behind them. He placed some guns in front to fire on the crossings of the

Nebel. Behind his cavalry he had a third line of seven infantry battalions, said to have been largely made up of Italian prisoners who had enlisted in the royal army and whom he did not much trust. To prevent the village of Unterglau being occupied by the Allies he set it on fire while they were forming for battle.

The ground to be held by De Marsin began a little south of Oberglau. He drew up his French and Bavarians on the traditional pattern of a battle line of the day—cavalry on the wings, infantry in the centre. There were some cavalry on his right, in touch with the left of Tallard's squadrons, but not looking to him as their immediate commander. The line of squadrons was prolonged behind the centre. Oberglau was held by a strong infantry force, including the famous battalions of the Irish Brigade in the French service.<sup>1</sup> The rest of the infantry—French and Bavarian—formed the centre north of Oberglau. They were formed near the marshy stream, and as soon as the battle began were moved down to the margin of the firm ground in accordance with the ideas De Marsin had proposed at Blenheim. There were more cavalry on the extreme left near the woods, and Lutzingen village had been prepared for defence.

It took four hours for the Allies to form their battle line. Marlborough on the left made some variations from the

<sup>1</sup> The Irish Brigade was formed originally of the troops who, after the last fight for the House of Stuart in Ireland and the Treaty of Limerick, entered the French service. Popular Irish pictures of the Brigade at Fontenoy often represent them as wearing green uniforms, but, like all the foreign troops of the old royal army of France, the battalions of the Brigade were red-coated. Green did not become the Irish national colour till the end of the eighteenth century. At Blenheim Irish troops fought bravely on both sides. The 18th Royal Irish were among Marlborough's infantry and claim that one of their rank and file was the first man killed in the fight. There was also a regiment of Irish horse. But the Irish in the British army were on the left, those in King Louis's service in the centre. So they did not meet face to face like the Irish troops of North and South at the battle of Fredericksburg in the American War of Secession.

accepted pattern. He drew up his squadrons and battalions in four lines instead of two. On the extreme left the red-coated infantry faced Blenheim. Then came the squadrons that were to attack the French cavalry between Blenheim and Oberglau with a line of infantry in front, then more cavalry and a fourth line of the infantry reserve. A Hanoverian brigade faced Oberglau, then came Eugène's army in two lines, horse on the wings, infantry in the centre.

While Marlborough was waiting for the news that Eugène's army was in position, some guns were pushed to the front and engaged the artillery Tallard had brought into action to check an attempt made by the Allied pioneers to bridge the marshy Nebel with planks and fascines (faggots of brushwood). Further north De Marsin's gunners were firing at the flanks of Eugène's columns as they moved into their positions. This desultory cannonading went on till, about noon, the English commander received word that Eugène was ready to advance.

Then the battle began with a move to the crossings of the Nebel and a fierce attack by the British left on Blenheim. The French held their fire till the redcoats were within thirty yards of the barricades. The British dashed through the smoke of the volley and there was a desperate struggle at close quarters with musket and bayonet, sword, pike and grenade. The British brigade was at last beaten back after losing a third of its strength. It was charged by the French cavalry as it retired, but saved by a charge of English and Hessian cavalry. The attack on Blenheim was renewed more than once, but again and again repulsed. French attempts at a sortie from the village were no more successful than these assaults. Much life was being lost to no purpose. At last Marlborough ordered the attempt to be given up for a while.

Meanwhile cavalry, supported by infantry, was being gradually got across the Nebel. The French repeatedly sent bodies of cavalry forward from their line to charge

down the slope, and more than once they broke the allied cavalry, but they were invariably driven back by the fire of the foot. Hour by hour the numbers of troops safely across the marsh steadily increased, and the French attacks were more easily beaten off. Tallard, faithful to his plan, made, however, no general attack.

On the right of the Allies things were not going so well. De Marsin beat back every attempt of Eugène's men to cross the marshy stream. He fully justified the advice he had given to Tallard. There was one moment when it seemed that he would do more than merely repulse his opponents. Eleven Hanoverian battalions from Marlborough's right had been sent to assault the village of Oberglau. The Irish Brigade which held it repulsed the attack, and then, in their eagerness for a good fight, crossed the Nebel and fell with the bayonet on the retreating Hanoverians. With a wild "Hurroo" they scattered two battalions in confusion, and pressing on, were driving the rest before them in a retreat that was rapidly becoming a rout. It looked as if the Allied centre was pierced, and it might well be that this successful counter-attack would be the signal for De Marsin flinging his whole force against Eugène into the gap.

Marlborough galloped to the point of danger. Against the Irish, disordered by their very success, he sent five squadrons of German horse, while the infantry hurried up from the reserve line poured volleys into their flank. The Irish fell back to their original position at Oberglau and the perilous moment was over.

It was now after four o'clock. The time was approaching for Marlborough's great effort. He had gradually accumulated more than 8000 horse, with strong infantry supports, on the west bank of the Nebel. Shortly after five, the squadrons having formed in a double line along the slope, the trumpets rang out the signal to charge. Up the slope they went at a trot. This was the moment when Tallard might have saved the day by a counter-attack of his eighty



squadrons, like Von Wert's downhill charge at Nördlingen. But the French cavalry clung to the old tradition of meeting an opponent with carbine and pistol fire, and then spurring at him. Marlborough insisted on his cavalry charging home with the sword. He gave his heavy cavalry breastplates but no backplates to their cuirasses to teach them that a horseman must ride straight at his opponent. The charge went like a thunderbolt through both lines of Tallard's squadrons. The battalions in the rear, unsteady as they were, gave way as the flood of broken cavalry surged back upon them. The plain was covered with a multitude of fugitives. De Marsin's squadrons, instead of coming to the help of their comrades and charging the Allied horse while still in disorder after their victory, thought only of guarding the flank of the army to which they were attached, and formed a line facing south with their left on Oberglau. The Allied infantry came up into position to keep them occupied if they ventured to advance.

Meanwhile the victorious squadrons pressed the pursuit of Tallard's broken array. The marshal tried to rally his men, and one of his staff galloped into Blenheim with the order to evacuate the village and join him on the bank of the Danube further west. But by the time the order had reached the place it was cut off by the advance of fresh troops across the Nebel. Charged once more on the river bank, the French cavalry were driven into the Danube and drowned or forced to surrender. Blenheim, battered by artillery and threatened with an assault, hung out a flag of truce, and twenty-six battalions and twelve squadrons became prisoners. De Marsin, seeing the battle lost upon his right, was making good his retreat westward pursued by Eugène. Tallard was a prisoner, so his colleague took command of the remnant of the army which rallied as the twilight closed in along the brook that flows into the Danube at Hochstett. Next day he continued his retreat to the Rhine. All Germany was freed from French domin-

ation by a single blow, and fortress after fortress surrendered at the first summons.

The hard fighting along the Nebel had been a costly business. Both sides had over 12,000 men killed and wounded.<sup>1</sup> But besides this the French lost large numbers of men drowned in the river in the final rout of Tallard's cavalry. Thousands disbanded and never rejoined the colours; 11,000 were taken prisoners on the field. De Marsin brought not more than 20,000 back to the Rhine. Thirty-six guns were taken by Marlborough and thirteen by Eugène. Nearly 300 regimental standards and company colours were among the trophies of the day.

It will have been remarked that at Blenheim the French infantry were used to hold barricaded villages or to support the cavalry. The latter was the chief fighting arm. For nearly forty years after Blenheim generals in the field mostly looked upon the mounted swordsman as the battle winner. Then the great soldier arose who showed that the infantry could be made the main strength of the battle line.

<sup>1</sup> The British troops engaged were 18 squadrons and 14 battalions. The infantry had 557 killed and 1350 wounded, chiefly in the attacks on Blenheim. The cavalry had 327 killed and wounded. The total loss was 2324.

## CHAPTER IX

### THE BATTLES OF FREDERICK THE GREAT

**A**T the beginning of the eighteenth century Prussia was one of the minor States of the old German Empire. Fifty years later it was one of the great Powers of Europe. The transformation was the work of the Prussian king, Frederick the Great. Men of his day spoke of him as a supreme military genius. It was only the full splendour of Napoleon's glories in war that eclipsed the fame of the Hohenzollern king.

It has become part of the tradition of the new German Empire of our own time to exalt the triumphs of Frederick and celebrate his exploits in peace and war. This has led to some exaggeration as to his real rank among the great soldiers of the world. But even after making due allowance for such exaggerations, the fact remains that he was one of the greatest of the masters of war in modern times, and his methods have had a lasting influence on the development of tactics.

His father, Frederick William I, was a feudatory of the Hapsburg emperors at Vienna, and ruled from Berlin over Brandenburg and a stretch of territory along the Baltic, with some detached dependencies in West Germany towards the Rhine and the borders of the Netherlands. Frederick William was a prudent, hard-fisted ruler with two ambitions—to accumulate a large reserve fund for his exchequer, and to form a perfectly drilled standing army of considerable strength.

At his death in 1740 he left his son a treasure of 9,000,000

thalers in coined money and an army of 80,000 men, said to be the best drilled and disciplined in the world at the time. Its numbers were out of all proportion to the extent of his disjointed kingdom. Prussia ranked twelfth in Europe measured by the area and population of her territory, but held the fourth place in military power.

But this military power was untested in the field. Frederick William's ambitions did not go beyond the parade ground. He was a crowned sergeant-major rejoicing in drilling and inspecting his thousands of handsomely uniformed soldiers. His greatest delight was to review his regiment of giant grenadiers. None of them were under six feet high. Some of them were seven-footers. They were recruited from every country in Europe, from Russia to Ireland, sometimes honestly hired for the King's service, sometimes kidnapped by unscrupulous agents. Many of them were tall men of feeble constitution, and the show regiment had very little military value. But this was the only Prussian regiment that was not fit for something more than parade displays. The infantry was solid and good. The cavalry was inferior to it. It was not till Frederick's reign that it became a formidable force. All arms of the service were recruited partly by compulsory enrolments, partly by recruiting among the thousands of adventurers who were found in every German army of the kind, men who in the day of disaster to an army were quite ready to transfer their services to a more successful leader. The officers were recruited solely from the nobility and squirearchy of the kingdom. Military service was the best career open to them.

The army was kept in order by a sternly cruel discipline, and drilled unceasingly. It was a highly finished military machine. Some of the officers and men had experience of war service, thanks to the strange system by which German princes hired out their troops to this or that belligerent without the transaction making them technically parties to the quarrel. In this way some even of the generals saw

service. Amongst the older commanding officers there were a few who had had considerable experience of war. Among these was the Prince of Anhalt-Dessau, Frederick's "Old Dessauer." To the old Dessauer was due an invention that considerably increased the efficiency of the Prussian infantry. It was one of these inventions that are so obvious that one wonders the world had to wait long for them. The Dessauer invented the iron ramrod. It was in use in the Prussian army for long years, while the soldiers of every other country clung to the old wooden ramrod, thick and clumsy, liable to warp or break. The iron ramrod made the fire of a Prussian infantry regiment half again as rapid as that of any opponent they had to meet.

Frederick William cordially disliked his son Frederick—once at least he expressed a hope the young fellow would die. He did not like his taste for flute-playing, French poetry and plays, correspondence with French "philosophers" and the rest. He thought that the Prince when he became King would squander his hoarded treasures and allow his wonderful army to go to pieces. But Frederick used both men and money to good purpose to win territory for Prussia and make the little kingdom one of the great Powers of Europe. He had to learn the soldier's business in actual war. He was just twenty-eight when he came to the throne, and it was not long before he plunged into his first adventure, the lawless seizure of Silesia. His first victory—Mollwitz—was won for him by his old generals and his steadily drilled infantry after he himself had ridden far from the field amid the wreck of the cavalry of his right wing, which had broken under the charge of the Austrian horse. But the foot with its solid steadiness and rapid fire saved the day. Curiously enough it was thanks to a mere accident, a mistake in the first formation of the battle line, that it was able to check the first onset of the victorious Austrian cavalry, as they wheeled round to roll up the centre of the Prussian line after routing the right wing. As the lines formed before the fight, the cavalry of

Frederick's right had not left room for the whole of the infantry to deploy, and a brigade remained massed in column behind the right centre. It was these troops who, forming to their right, met the flank charge of the Austrians. When he thought that all was lost, Frederick learned that the fight had been won for him. His first resolution was to make his cavalry as good as his infantry, and thanks to born leaders of horse like the famous Seydlitz and Ziethen, the Prussian cavalry became in a few years a winner of battles.

A glance at the plan of the battle of Mollwitz will show how the array of both armies (except for the accidental reinforcement of the Prussian right centre) precisely resembled that of scores of battles in the seventeenth century. There was a kind of "sealed pattern" for battles during a couple of hundred years—infantry in the centre, cavalry on the wings. The two lines clashed together, charging and firing on each other till one of them gave way.

Battles stubbornly fought to a finish at short ranges, or hand to hand, and ordered on this "hammer-and-tongs" system, were sanguinary affairs. At Mollwitz the armies engaged were small in number compared to those of to-day—22,500 Prussians against General Neipperg's 19,000 Austrians. Of the latter no less than 8500 were cavalry against the 4000 horse on the Prussian side. In all armies the proportion of cavalry to infantry was still very high. The Austrians lost nearly 3000 killed and wounded and over 1400 prisoners and missing. The Prussians bought their success dearly with a loss of 3930 killed and wounded and 690 missing. "Missing" in these wars meant that when men were scattered, large numbers had no particular anxiety to rejoin the colours. It has been said of Frederick the Great's marching regulations that they were largely inspired by the necessity of taking precautions against wholesale desertion. As to the wounded of eighteenth-century battles, and even of those of the earlier years of the nineteenth, a wound from the heavy musket ball or

from a bayonet stab was a serious business, and the rough-and-ready surgery of the time, the utter ignorance of the dangers of open wounds becoming infected, and the absence of any effective ambulance organization, meant that many of the wounded died, and those who recovered took a long time to regain their health. The hospitals were pest-houses, where hundreds died of fever and gangrene. The losses in battles were therefore a heavier drain on the strength of an army in the field than they are now, when hundreds of wounded rejoin the colours fit for service in a few weeks.

It was Frederick's special merit that he thought out and reduced to practice a system of battle tactics that superseded the old routine methods. He saw that battles could be more surely won by arranging matters so that a superior force would be flung on one portion of the enemy's array, the rest of the army being used merely to keep the other parts of the enemy's force occupied and preventing him from countering the blow by reinforcing the threatened point.

The system he adopted was known as "the oblique order" of attack. Its object was to overwhelm one flank of the enemy's line by bringing a superior force to bear upon it, the attacking flank of his own army being reinforced for this purpose, and the centre and the other flank being held back at the outset, merely demonstrating against the opposing parts of the enemy's line, and only pushing home its advance when the main attack had made good progress. This attack on the selected flank was made either by marching diagonally across the wing of the hostile line that had been marked out for destruction, and then wheeling into line to attack it when it was already outflanked and partly enveloped, reinforcements moving up to support the advance; or by bringing successive lines forming one after the other to bear upon it. In every case the success of the movement depended on the attacking troops being brought up to the point of action in column formation, the companies of each regiment being formed, line behind line,

each three deep, and so placed that there was just room enough between them for a wheel to right or left to bring the whole regiment into a three-deep fighting line. In a typical attack the first line would be formed at the point of action by several regiments on the order "Form line to the right," wheeling smartly from column into line. As they opened fire, a second column would come up behind them and wheel into a supporting line. Perhaps a third line would be formed in the same way. It is obvious that unless the advancing column kept the distance between companies just equal to the length of their fronts, when the wheel into line took place there would be either gaps in the array or places where men would be so crowded together that they could not come up into line and use their muskets. Hence endless drill in battalion movements, efficiency being enforced by sharp and sometimes cruel punishment for mistakes or slackness. The test of battle efficiency depended on the accurate march in column, the smart wheel into line and the steady advance of the line thus formed. From Frederick's days, and from the Prussian drill that passed from his army into every army in Europe, there dates the march past in column as the chief feature of all reviews and inspections. The closely formed line is no longer a battle formation in our days, but the advance in column, the formation into line and the "advance in review order" remain the test of accurate drill.

Another element of success was the rapid handling of musket, ramrod and cartridges so as to secure a steady, well-sustained fire. Hence in the armies of Frederick the Great much drilling in what used to be called in our own army in old days "the manual and platoon exercise." There was very little firing at a mark, hardly any expenditure of ball cartridge in the soldier's training. Fire was opened at a range under 200 yards, generally much nearer 100—sometimes even 50 or 60 yards. It was considered that the soldier would do damage enough to the enemy if he loaded quickly, and then at the word of command brought



his musket to the shoulder and pulled trigger with a rough-and-ready aim at the big mark presented by the shoulder-to-shoulder line, so close to him that he could see every button and buckle on the enemy's uniforms.

The infantry attack was supported by the cavalry moving against the flank that was to be assaulted, or charging into the hostile line so as to isolate the threatened flank and prevent reinforcements coming up to it. In Frederick's earlier battles the artillery was made up of very light guns attached two or three to each battalion, a few gunners being assigned to each piece, so few that to work it they were assisted by infantrymen. The drivers of the teams were civilians from the transport department. There was very little ammunition. Besides these battalion guns there were a few heavier pieces at the disposal of the general commanding the army. But guns were regarded as chiefly useful for defence of a position. It was Frederick who first began to use them systematically for attack, grouping them in batteries. It was not, however, until the wars of Napoleon that artillery began to take its place as one of the chief arms of the battlefield, and was used intelligently by the great soldier to support the infantry attack and prepare the way for it by shattering the hostile line with a mass of fire.

All Frederick's battles were fought out with comparatively small armies, whose fighting front, thanks to the close battle array, was a short one, so that from left to right it could be controlled by the commander-in-chief. Movements were very slow compared to those of our day. The marching and manœuvring pace of infantry was the "slow march," which we now only see at such a ceremonial review as the annual "Trooping of the Colours" by the Guards. The men were heavily weighted, and it was thought that accurate drill depended on the slow pace being observed. Except in the bayonet charge, and seldom even then, infantry moved with this stately step, the soldier being broken to it by being drilled to march without bending the knee. Only light-infantry skirmishers moved at anything like the

quick step or the double, and these were regarded as very irregular proceedings, the skirmisher being himself usually an irregular, like the Tyrolese and Croat sharpshooters of the Austrian armies. It was the general slowness of manœuvre that made it a difficult business to alter in any way a battle line, once the troops had, with much care and trouble, been placed in their assigned positions. Frederick's new idea of moving columns about the battlefield, wheeling them suddenly into line, and opening a heavy and comparatively rapid fire against the point selected for attack, was regarded as a revolutionary proceeding and came as a surprise to the conservative-minded old Austrian generals, to whom he was opposed in his earlier wars.

The victory of Hohenfriedberg, won in June, 1745, was an example both of the new tactics and of Frederick's insight as a leader of armies. An Austrian and Saxon army of 77,000 men (65,000 infantry, 12,000 cavalry) under Prince Charles of Lorraine had been massed in the north-east of Bohemia to drive Frederick out of Silesia. The Prussian King concentrated 49,000 infantry and 28,000 cavalry behind the little river Striegau near the town of the same name. A less daring and masterful leader would have tried to bar the passes of the Bohemian mountains against Lorraine's advance. Asked why he did not do so, Frederick replied, "When one wants to catch the mouse one leaves the mouse-trap open." He did not want merely to keep the enemy out of Silesia. His object was to destroy the Austrian army, so he allowed it to descend into the Silesian plains, and tried to give Lorraine the impression that he was retiring before him, but all the while he had made up his mind to fall upon him on ground selected for a decisive battle.

In the first days of June the Austrians came pouring through the passes, and as they marched down from the hills found in front of them only a detachment of the Prussian cavalry under Ziethen, which everywhere retired with hardly a show of resistance.

On 3 June Charles of Lorraine had his head-quarters at the walled town of Hohenfriedberg. He had no idea that the Prussian army was massed a few miles away on the other side of the Striegau river. He only knew that there was some hostile cavalry in his front and a Prussian detachment holding the town of Striegau, a place that was important because there the main road he was following crossed the little river by a good bridge. His orders were that at dawn next day (4 June) the Saxon contingent serving with him should clear the enemy out of Striegau and secure the bridge. He expected a minor engagement and an easy success, and then the continued advance of his army, which had bivouacked for the night with its vanguard (the Saxons) opposite Striegau, its rear at Hohenfriedberg.

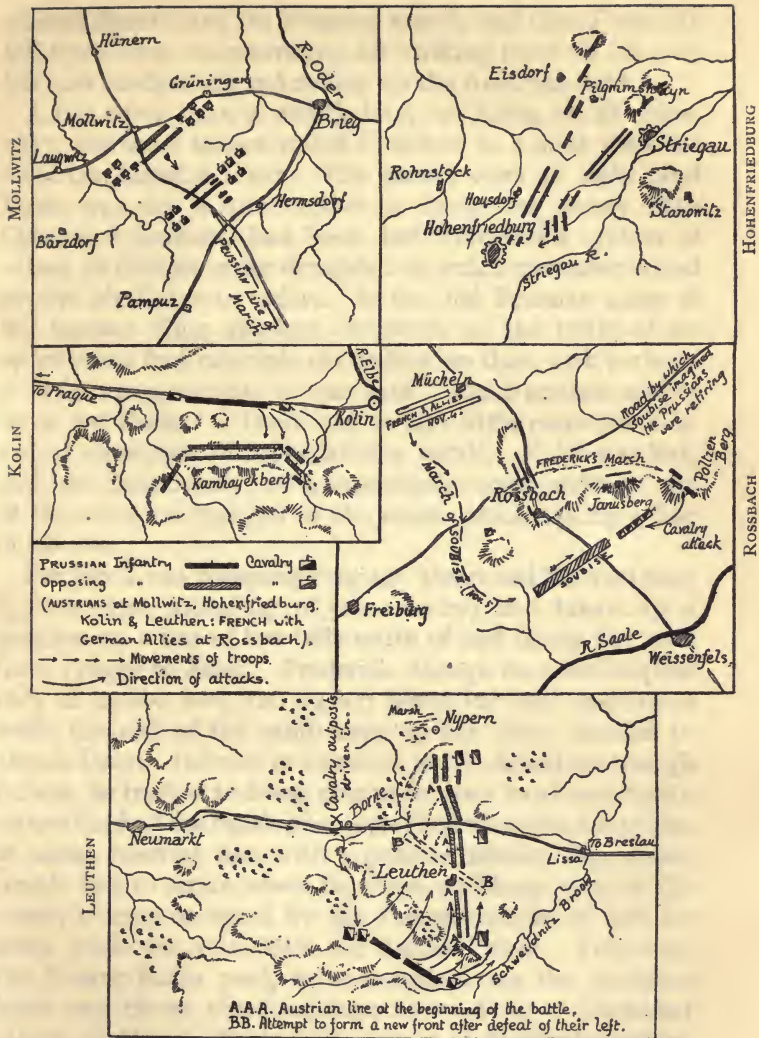
In front of Striegau there was a group of low hills. In the dusk of the evening, on 3 June, Frederick occupied these with a mixed force of infantry, cavalry and artillery under General Du Moulin, an officer of French (Huguenot) descent in his service. All night long his army was crossing the river at Striegau and moving to the left so as to be in line of battle facing the Austrians at the early dawn of the summer day. Ziethen, with 10,000 horse, marched by the other bank of the river to cross it by a ford higher up opposite Hohenfriedberg when the day came. The night march was carried out with a silence and regularity that spoke volumes for the drill and discipline of the Prussian army.

At 4 a.m. the Saxons moved up to the Striegau hills and met with an unexpected resistance. The fight was notable for the way in which Du Moulin combined the three arms, using six guns in battery as an independent artillery unit, and counter-attacking effectively instead of making a mere passive defence. At first the Austrians thought the fight at Striegau was, at most, against a strong Prussian rearguard. Then as the mists cleared from the river valley they saw that an army on a front equal to their own was arrayed against them from Striegau to

opposite Hohenfriedberg. Frederick had reinforced his left at this point to overwhelm the Austrian right. As his columns wheeled into fighting lines, and came on halting to fire and then moving forward again, a brigade of dragoons under General Gessler made a splendid charge through the Austrian line, cutting its menaced right off from the centre. Then Ziethen's cavalry, having forded the stream, came up behind the infantry attack, swept round the flank and sent wave after wave of horsemen against the hard-pressed enemy. Charles of Lorraine saw his right falling back in disorder, and realized that a further Prussian advance on this side would cut him off from his line of retreat to the mountains and involve the loss of his whole army. At 9 a.m. he began to retire all along the line. The Prussians, exhausted with the sleepless night of marching and forming in the dark, followed by the five-hours' battle, were unable to press the retreating enemy. But Ziethen's cavalry secured a number of prisoners.

The victors lost 4750 men. But the loss of the Austrians was much heavier. 9580 were killed and wounded, 5650 taken prisoners, a loss of more than 15,000 men in all. The Prussians captured 45 cannon and 61 standards. Silesia was saved, and the Austrian army rendered helpless for some time to come. Frederick, who prided himself on his artistic and literary accomplishments even more than on his skill as a war leader, composed the "Hohenfriedberg March" to commemorate the victory, and the music is still one of the favourite marches of the German army.

Frederick's career was not one of unbroken success, though it was rarely that he failed. At the battle of Prague (6 May, 1757) his old opponent Charles of Lorraine awaited his attack in a carefully prepared position. Frederick, feeling quite sure that his opponent would stand on the defensive, marched boldly round him, confident that at any moment the well-drilled Prussians could form from column of march into battle line. Prince Charles moved to new ground and made a change of front to meet the



### BATTLES OF FREDERICK THE GREAT

MOLLWITZ. April 10, 1741.

HOHENFRIEDBURG. June 4, 1745

KOLIN. June 18, 1757

ROSSBACH. Nov. 5, 1757.

LEUTHEN. Dec. 5, 1757



PLAN OF THE BUILDING AS SHOWN IN THE PHOTOGRAPH  
 (SOUTH EAST CORNER)      (SOUTH EAST CORNER)  
 (SOUTH EAST CORNER)      (SOUTH EAST CORNER)

altered direction of the Prussian march, and then Frederick fell upon him, concentrating his striking force on his own left and outflanking and rolling up the Austrian right.

Little more than a month later, at Kolin, on 18 June, 1757, the same tactics ended in failure in a fight with the Austrian Marshal Daun. The tactics were all right, and Daun was not a more active or dangerous enemy than Charles of Lorraine had been, but Frederick's system of attack in oblique order depended on exact movements and precise obedience to orders. In this old Prussian army of the famous King absolute obedience to the letter of an order was a first principle of conduct, so that, with perhaps a little exaggeration, it was said "the Prussian soldier must not think." There was in fact little room for individual enterprise in a Frederician battle. Kolin was lost, and lost disastrously, by a subordinate commander of one of the columns engaged in the main attack taking a line of his own.

Frederick was besieging Prague. Daun and his Austrians (53,000 men, including 18,500 cavalry) had taken up a position on a line of low hills south of and facing the road from Prague to Kolin. Frederick, though he could dispose only of 22,000 foot and 14,000 horse for field operations while the rest of the army kept up the siege, decided to attack Daun. Inferior in numbers to the Austrians though he was, he trusted to being able to secure a local superiority on one flank of the battle line, and relied upon the Austrians, as usual, meeting him with a passive defence that would enable him to strike where he chose, and keep most of the enemy's army occupied by the demonstrations of half his army while the rest dealt the decisive blow. Following the Prague-Kolin road, he marched across the Austrian front and threw three columns forward for a combined attack on Daun's right, while 10,000 of Ziethen's cavalry were sent to work round the same flank of the enemy.

The first column, led by General von Hulsen, captured a village on the Austrian right after some hard fighting,

but then found its further progress barred by a strong array of infantry supported by a mass of artillery. Ziethen had found an unexpected obstacle to his flank movement in the thick oak woods on the Austrian right, which were obstinately defended by white-coated infantry with guns in the avenues and clearings to which Ziethen could not oppose a single cannon—for horse artillery had not yet been introduced into European armies. Everything now depended on Von Hulsen being promptly supported by the troops told off to reinforce his attack. But General Mannstein, who commanded the second column, as he marched across the Austrian right centre, was annoyed by the fire of Croat sharpshooters in the long corn that covered the lower slopes of the position, and forgetting the real object of his advance, he formed prematurely to his right to drive the Croats back. Following them up as they gave way, he came into action against the Austrian main battle line, bristling with artillery and strongly posted. The third column under General Moritz was now coming up, but, following Mannstein, it lost its proper direction. The orders which Frederick in person gave to Moritz were misunderstood, and instead of supporting Von Hulsen's flank attack he came up between his advance and that of Mannstein, flinging himself against the Austrian front. The result of these dislocated attacks was that all of them failed, and the Prussians were driven back with terrible loss. The Austrians lost 6470 killed and wounded, besides 1640 prisoners taken by Von Hulsen in the first stage of his attack. The Prussians lost just one-third of the force engaged, 6710 killed and wounded and 5380 prisoners—12,000 men out of a force of 36,000. They left 45 guns and 22 standards in the hands of the victors. To save what was left of his army Frederick had to raise the siege of Prague.

But the autumn of the same year witnessed his most famous triumphs. He was opposed in western Saxony to a mixed force of French and Imperial troops commanded



by Charles de Rohan, Prince de Soubise, Peer and Marshal of France, an incapable commander who owed his position at the head of the allied army to the favour he had won at Court with Louis XV and Madame de Pompadour. Frederick had only 22,000, of whom 5400 were cavalry. His artillery, partly organized in batteries, numbered 72 guns. Soubise commanded 43,000 men with 109 guns, so the advantage of numbers was heavily on the side of the Allies.

At the beginning of November, Frederick had his headquarters at the town of Rossbach. In the hollow behind it, sheltered by a range of low hills with easy slopes, his little army was encamped.

On 4 November, Soubise was halted a few miles to the west of Rossbach. Early on the morning of the 5th it was reported that the French and their allies were in movement, and from the roof of the town hall at Rossbach Frederick watched their march with a telescope. Masses of French cavalry headed the long column, and some of these moved directly upon Rossbach, but halted out of cannon range as if only watching the town and covering the movement of the main body. Frederick's impression was that Soubise was merely bringing his army directly in front of the position, and at the same time placing it in touch with the road to Freyburg, where the Allies had magazines of supplies and bakeries. Towards noon the French halted, and Frederick went to dinner with his staff. He had just finished the meal when he was informed that Soubise was again on the move, and the head of the column was wheeling as if the French marshal intended to march round the flank of the Rossbach position. It seemed almost incredible, but it was soon plain enough that Soubise was trying to play Frederick's own game, trusting to his superior numbers to envelop the Prussian left flank. Frederick saw what was intended and determined on a counter-stroke.

The Prussians had been drawn up on the Rossbach heights to meet a possible attack. Suddenly the French saw them disappearing behind the hills. Soubise jumped

to the conclusion that they were in retreat, and ordered the pace to be quickened, and directed the head of the column towards the Polsen Hill, the furthest east of the range of heights that extends from Rossbach towards the river Saale, the range that now screened the armies from each other.

The French had no advanced guard. They were moving in a long column headed by the mounted troops. From the hills their march was watched by a few Prussian horsemen. But behind the hills the Prussians were hurrying eastward, not in retreat, but eager to deliver a sudden blow against the head of the hostile column. In front at a brisk trot went Seydlitz with 4000 of the cavalry. Next came eighteen guns and then the mass of the infantry. About half-past three in the afternoon, as the head of the French column was nearing the Polsen Hill, Seydlitz's squadrons crowned the slope in front of them, and at the same time eighteen guns and several battalions showed themselves on the Janus Hill to the west of it. Before the French could form from column into line the guns roared out and sent their balls ricocheting through the ranks, and at the same time Seydlitz charged down with his 4000 horse, tore through the French cavalry from left to right, and then turned and charged through them again. Four times in all he charged. The French cavalry was scattered in all directions, and at the same time the infantry, trying to form into line, was met by the cannonade from the Janus Hill and the fire of seven battalions flung into line by Prince Henry of Prussia.

The head of the column—Soubise's right if he had got it into battle order—was destroyed in about half an hour, and the victorious Prussians rolled up the rest of the line, Seydlitz charging again when the broken French tried to rally on the yet intact rearward troops. Soubise's unfortunate army rapidly became a mere mob, and was swept from the field in dire confusion. In two hours after the first shot was fired all was over. The French lost 2700 men,

and left 5000 prisoners, 67 guns and 22 standards in the hands of the victors. Only half of Frederick's army had been engaged. 10,000 men had beaten more than 40,000, and the loss of the victors was slight—517 men and 23 officers killed and wounded. Rossbach was remembered as a French disaster till Jena eclipsed the memory of Soubise's failure and Frederick's marvellous success.

A month after his victory over the incapable French marshal at Rossbach, Frederick won a still more splendid success over the Austrians under the command of his two old opponents, Charles of Lorraine and Marshal Daun. They had entered Silesia, and after defeating a Prussian force before Breslau, captured that city. Frederick marched to retake it with an army of 43,000 men, of whom 11,000 were cavalry. The Austrians, instead of marching to meet him, selected a position for defence on the Neumarkt-Breslau road, west of the city, a line running north and south across the road, its left among pine-clad hills, its centre at the village of Leuthen, its right protected by the marshes and bogs about Nypern. The line was strengthened with fortified villages and earthwork redoubts and held by 72,000 men with 167 guns.

Frederick realized that he had a formidable task before him. To his officers on the eve of the battle he said with involuntary exaggeration that next day they would have to attack an army nearly threefold the strength of their own, and as he bade them good night he said, "To-morrow, gentlemen, we shall beat the Austrians or we shall never see each other again."

He counted upon his opponents making the usual passive defence of their position and allowing him to repeat his favourite manœuvre of throwing half his force on one flank and rolling their line up from end to end, the attack possessing a local superiority throughout at the point of contact, despite the great disparity of numbers on the whole field.

On 5 December the Prussians advanced along the Neu-

markt-Breslau road, the King riding with the cavalry at the head of the long column. Snow was on the ground, and till late in the forenoon a grey mist obscured the view. At Borne, about half-way between Neumarkt and the Austrian position, the Prussian vanguard came upon a line of cavalry vedettes drawn up across the road and on the ground right and left of it. Ziethen charged and drove them in, taking a few prisoners. Those who escaped retreated by the road which ran into the right centre of the position north of Leuthen. They reported that the enemy was coming along the road, and the Austrian commanders jumped to the conclusion that the attack would be made on the right of the line between Leuthen and Nypern, and reinforced this part of the position.

Having driven in the enemy's cavalry outposts, Frederick turned to his right off the main road, and moving through broken hilly ground and stretches of pine wood that effectually screened his march from the enemy (who had no scouts out in their front), his vanguard reached by one o'clock in the afternoon the hollow of the Schweidnitz brook close in to the Austrian left flank.

And now began what one may well hold to have been the most brilliant of Frederick's battles. Its essential points might be described in three lines, for it was a perfect example of the attack of a long line from the flank, the attack rolling up the defence from left to right. But such descriptions of battles by mere formulas give but a vague idea of the reality, and leave out of view factors that counted for much in deciding the result. Let us try to turn the mere diagram of the battle shown upon our plan into a mind-picture of this wonderful fight among the snowy woods and hills of Leuthen on this winter afternoon in 1757.

At one o'clock the two armies were almost in contact, but as yet hidden from each other by broken ground and belts of scattered pine wood. There was the Austrian line some five miles long from north to south, across the Breslau road. 70,000 men holding it, nearly 60,000 of them white-

uniformed infantry, say 12,000 to each mile of front. They have 167 guns with them, mostly light pieces, 5- and 6-pounders, a formidable number at first sight, but at most giving only thirty guns to each mile of front. There are really not so many mounted behind the entanglements of felled trees, barricades of villages and other works that have been hastily constructed to fortify the long front, for in the last two hours Marshal Daun has sent off a number of guns and many men from left to right, on reports that the Prussians are coming on that side. And other guns are in reserve behind the line, some of them in places where they will be wholly useless. Austrian, Hungarian and Croat cavalry, uniformed as for a gala review, but with all this brilliancy hidden in their long cloaks on account of the bitter cold, are standing by their horses in clearings of the woods behind the flanks and the centre. On the left the word has gone round that nothing is likely to happen on this side. On the right all is anxious expectation. Gunners, match in hand, stand by their pieces ready to sweep with fire the Breslau road; musketeers behind felled trees and rough breastworks peer into the woods for the first sign of the expected Prussian onset. Teams of country horses drag cannon up through the snow to stiffen the line with fresh artillery. But in front of this eagerly waiting line there is absolutely nothing but the empty woods. Frederick has not even taken the precaution of pushing forward a false attack to keep the Austrian right occupied. He knows enough of them to feel sure that they will quietly wait for something to happen, while he deals his hammer blow elsewhere.

Away to the southward the Prussian army, 40,000 strong, is closing up on the Austrian left. The 40,000 men, marching in two parallel columns with the perfect order of the best-drilled army in Europe, cover less than three miles of snowy country roads among the pine-clad hills. Everyone understands that a great game is to be played, a daring stroke risked, and that there must be victory or

utter ruin this afternoon, and from officer down to drummer-boy everyone absolutely trusts "Fritz." He rides near the head of the column that is silently edging in closer and closer to the enemy's extreme left. Ziethen's dragoons are in front. Then comes the King, silent, with set resolve on his thin features, his staff around him, and then, behind a veteran infantry battalion ten guns, 12-pounders from the fortress of Glogau. Nothing very terrible in the eyes of a soldier of to-day would these lumbering fortress guns have seemed, but it was something novel in 1757 to bring into the field anything bigger than a mere pop-gun 6-pounder, and it was a new thing to put a whole battery of these long cannon at the head of a column of attack, to blast the way through obstacles that might otherwise delay the advance. The ten big guns of Leuthen were a prelude of the great batteries that forty and fifty years later were to clear the way for Napoleon's victorious onsets.

For two hours Frederick's army has marched without seeing any sign of an enemy, but now the track they have followed opens on the hollow of the frozen Schweidnitz brook, and there away to the left is the first sight of the Austrian line, its extreme flank posted on a low round-topped swell of the ground, with a bristling entanglement of felled trees barring the way. Among the trees and on the slope above musketry and artillery, cannoneers and lines of white-coated infantry.

A left wheel brought the leading battalions of the blue-coated Prussians into their three-deep fighting line. The big guns unlimbered and were pointed at the Austrian abattis. Ziethen's dragoons went at a clattering trot down the hollow of the stream and round the shoulder of the hill. Then the uproar began.

Cannon and musketry from the front of the hill, answered with the platoon or volley-firing of the Prussian foot, while the battery of 12-pounders began to tear the obstruction of felled trees to pieces, sending splinter showers among the men behind it. Ziethen for once was badly caught, for

down the slope a mass of Austrian horsemen charged, crashing into his flank. But his squadrons rallied behind the cover of the nearest battalion, whose musketry drove the victorious cavalry back in confusion. Then Ziethen worked round the hill, with a column of infantry tramping behind his mounted men, and deploying into line as it gained the rear of the enemy's position. And now with clock-work precision battalion after battalion was coming into line, each bringing up a couple of light 6-pounders with it. Ziethen's horse were out in the woods to rearward of the enemy, and Frederick's battle line, moving on with a blaze of fire, was enveloping the Austrian flank. The big guns had demolished the abattis, and through it the Prussians came in with the bayonet. 5000 or 6000 Austrians actually on the hill and around it had 20,000 Prussians on their hands, and as they gave way under the pressure of superior numbers and superior fire they were pushed back towards Leuthen, and Marshal Daun found his long line crumpling up, with all the Prussian right in behind his works and moving northwards with no obstacle to stop them, and the left closing in on his left and left centre.

But the battle was not lost yet. It was no use trying to hold on to anything south of Leuthen, but the village might be made a rallying point round which to build up hurriedly a new battle line facing south. The troops on the right were ordered to move southwards across the Breslau road, but it would be a good hour yet before they were all available. And Frederick was determined that in that hour he would be into Leuthen. He had the great advantage that on his side everything was working out on a simple pre-arranged plan. The infantry had only to press forward now facing north, half of them to the right of and inside the enemy's entrenched line making it useless, the rest to the left of it, two masses of cavalry, under Ziethen on the right and Driesen on the left, guarding the flanks of the advance. But on the Austrian side all was confusion.

They had expected to hold a fortified line against a frontal attack. The fortified line had for all practical purposes ceased to exist. Their left was beaten, and they were trying to improvise a new line of battle amid all the noise and confusion of this fierce, ever-advancing Prussian onset.

They made a good fight for Leuthen. The church, the walled churchyard and two towering windmills were used as improvised castles, but, directed by Frederick in person, who came close up amid a rain of musket balls, the Prussians stormed the place with much desperate bayonet fighting. Driesen, lying hid in a hollow to the left rear, countered a charge of Austrian cavalry against the flank of the advancing infantry by dashing in with his squadrons just as the enemy's horsemen came under the fire of the infantry. Few of them escaped. With Leuthen captured, the battle was decided. It was now only a matter of beating in detail the Austrian regiments as they struggled up into the new and never fully formed battle line. As the early darkness came on the Austrian army was streaming away in a broken rout towards Breslau.

On the Prussian side 6200 killed and wounded were the cost of the victory. The actual loss of the Austrians in killed and wounded was about the same, but how utterly beaten their army was may be judged from the fact that when the battle ended the Prussians had 20,310 prisoners in their hands, a number equal to more than half the effective strength of the victors. 116 guns had been taken and 51 colours. Daun's total loss in that afternoon fight was 26,280 men. It was a magnificent victory against desperate odds, won by sheer force of determined will and good leadership. Rossbach and Leuthen would alone be enough to establish Frederick's claim to be placed in the foremost rank of battle leaders.<sup>1</sup>

Such were some of the typical battles of Frederick the

<sup>1</sup> Of Frederick's generalship at Leuthen, Napoleon wrote: "The battle of Leuthen is a masterpiece of movements, manœuvres and resolution. Alone it is sufficient to immortalize Frederick, and place him in the rank of the greatest generals."



Great. Granted that he owed many of his successes to the inertness and resourcelessness of his opponents, it is still true that this self-taught soldier had the insight to grasp the essential principle of battle leading, to make the best possible use of the weapon his father had formed for his hands, and to evolve a tactical system which made the most of the special qualities of the Prussian army. His drill-book was soon adopted, with minor modifications, by most European armies, but as so often happens, most of those who took it up saw in it not a means but an end, and for many in various countries barrack-yard and parade-ground drill became the "be all and end all" of military activity. It was Frederick's merit that he always saw in the work of the drill ground only a preparation for operations in the field, and his system of peace manœuvres, though of only an elementary character compared to what such training now is, gave a further education to his officers, and enabled him in his actual campaigns to make good use of the varied character of his battlefields.

After his death the Prussian army fell back into a period of unintelligent routine. The drill-book became the sum of military knowledge. The army lived on the reputation of Rossbach and Leuthen without maintaining the practical efficiency that had made these triumphs possible. The veterans who had begun their career as officers under Frederick were supposed to be the final authorities on all military matters, though many of them had never grasped their great chief's ideas, and had not a spark of his insight and spirit of initiative. There was a rude awakening for Prussia in the Napoleonic wars, and a catastrophe fifty years after Rossbach that avenged the defeat of France. But at the same time, under the wise guidance of another generation of leaders, it became the starting-point of a new and yet more brilliant period of success for the Prussian armies.

## CHAPTER X

### BATTLES OF THE FRENCH REVOLUTION AND THE EMPIRE—NAPOLEON AND WELLINGTON

THE wars of Frederick the Great had finally secured for the infantry arm its place as the main strength of the battle line. Henceforth as the years went on the proportion of infantry to cavalry in regular armies rose steadily, till before long it was recognized that the mounted troops formed only an auxiliary arm. But Frederick's system depended on the use of the foot soldiers in close-ordered shoulder-to-shoulder formations. It was in colonial wars that the use of the skirmish line of sharpshooters and of what came to be known as light-infantry tactics first received recognition from professional soldiers. Frederick's later campaigns were part of a world-wide conflict of allied nations, one phase of which was the struggle between France and England for predominance in North America. In the forest regions of the New World the French had learned the arts of the skirmisher from their Indian allies. The Colonials had adopted the same tactics, but the English regular officers would not hear of anything but the methods of the parade ground until they received a rude lesson in General Braddock's defeat near Fort Duquesne in 1755.

Braddock, a routine soldier, despite the advice of his Colonial officers, advanced in close order into wooded ground at the head of about 1400 men. When a circle of fire opened upon him from invisible enemies in the bush,

he deployed his little force in the regulation three-deep line and replied with volleys. When the men tried to open out and take cover, Braddock sternly ordered them to keep their ranks, and insisted on remaining mounted, though four horses were shot under him. When at last he himself fell dead, Washington, who served on his staff, brought the remnant of the force out of action. Nearly a thousand had been killed and wounded. The opposing force of French and Indians was only 900 strong, and suffered a very trifling loss.

After this the Royal American Regiment was raised, the same regiment that was afterwards known as the King's Royal Rifles. Besides the regular close-order drill they were specially trained for "irregular warfare"—that is, for skirmishing tactics.

From the outset the regiment was armed with the rifle, a weapon then regarded as an exceptional equipment for special purposes. It was costly to manufacture, and the forcing of a bullet into the grooves made loading a slower operation than with the smooth-bore musket. The elongated bullet had not yet been invented, and the rifle had neither the long range nor the extreme accuracy of the weapons we now know by the name. But even with its slower rate of fire it was superior to the musket. The theorists of the day held, however, that the more rapid fire of the smooth-bore at close quarters marked it as the ordinary weapon for infantry in the line of battle, and the rifle where it was used was regarded as the weapon of the individual sharpshooter.

The distinction between "rifles" (or to use the French and German equivalent names "*chasseurs*" and "*jägers*") and the "infantry of the line" has become less and less of a reality with the general levelling up of armaments and infantry tactics. But originally in all armies these special corps were quite distinct from the line regiments. The latter formed the battle line, shoulder to shoulder, and manœuvred in close order. The former were known as

"light troops," and their duties were to do outpost work and to skirmish in the front and on the flanks of the line regiments. In some armies the distinction was one of race and recruiting. The Austrians always brought into the field in the wars of the eighteenth century a horde of wild Croats and other southern Slavs, who acted as their light troops, and were so undisciplined and so apt to murder and plunder that a general never ventured among them without an escort. There was originally the same distinction among the cavalry. There were mounted "regiments of the line" trained to charge knee to knee, and half-irregular corps that acted as scouts, looked after parts of the outpost line and went out as foragers. The Austrian Hussars were originally of this type, as the Cossacks were in the Russian army even during the Napoleonic wars.

The Royal American Regiment was something more than a mere corps of scouts and skirmishers. Trained for the half-irregular warfare of the American forests, they were also drilled to act as infantry in line. They were more like a modern British regiment than anything in the army of that day. There were so many Colonials in the ranks, that when the American War of Independence began they were sent to do garrison duty in the West Indies. At the outbreak of that war there was not a rifle in the hands of anyone in the British army employed in North America, while there were plenty of riflemen among the insurgents. Special rifle corps were raised for service in the Colonies, and Hessian sharpshooters were imported from Germany. Further, each line regiment had a company of its most active men drilled for skirmishing and outpost work, and these "light companies" were often organized into provisional battalions of light troops. It was in the American War that British soldiers learned the practical use of skirmishing tactics. It was in the same war that the British infantry abandoned the three-deep line and fought for the first time two deep, a formation that gave a longer and more effective front of fire.

The French had already learned something of skirmishing tactics from their Red Indian allies in the wars of North America, and the troops who were sent to assist the revolted Colonists had a further lesson of the same kind. In France, on the eve of the Revolution a drill-book modelled on that of Frederick the Great had been adopted. The essence of the Prussian drill was the march in open column of companies, with the wheel into line and the fire fight in three-deep formation, followed by the bayonet attack. But French soldiers understood the advantage of covering the opening movements of the battle with a screen of skirmishers, and the skirmisher played a very prominent part in the wars of the French Revolution.

The first result of the Revolution in France was to disorganize the old Royal Army, recruited by voluntary enlistments, and the provincial militias raised by a limited conscription. The Paris Government substituted for these a so-called regular army formed of the remnants of the old royal regiments, reinforced with volunteers, and a National Guard raised at first by voluntary enlistment and then by conscription. After an ineffectual effort to bring the army up to full strength by the transfer of men from the National Guard a general system of forced conscription was introduced. But when the war with the European Powers began, the Revolutionary Government had only an improvised army, composed of various elements, and only half trained and disciplined.

If the Allies had shown even moderate intelligence and energy this army would have been utterly useless against their veteran troops. Even as it was, easy victories were won at the outset over so-called armies that rapidly became disorderly mobs. It was the failure of Brunswick's march on Paris—a failure due more to bad arrangements of every kind than to any effective resistance by the French—that encouraged the Republican Government to look for eventual success.

Their first victories were won by armies that outnumbered

their opponents heavily, and used against them an improvised battle order that was the result less of choice on the part of the leaders than of the necessities of the case. To attempt to manœuvre in line against the Austrian and Prussian regulars would have been to court disaster. In their first victories the French used the tactics of irregulars. Dense lines of skirmishers were pushed forward, those who volunteered for this service being some of the best of the men and officers. These drove in the few light troops in the enemy's front. The strong skirmishing or "*tirailleur*" line of the Revolutionary armies was sometimes very like the modern firing line. Opponents trained on the older methods found that, after their skirmishers had been driven in, they had in their front an irregular swarm of sharpshooters spread out in groups and scattered lines, hiding behind every available scrap of cover, suffering little loss, giving way before an attack only to rally again, and masking by its activity and the smoke clouds that drifted over it the supporting troops behind it. On rare occasions a cavalry charge not only routed the skirmishers, but carried their panic flight into the ranks of the formed troops behind them. But many of the battles were fought in comparatively close country where cavalry could not easily act, and as the war went on the Republicans learned to form square rapidly while the enemy's horse were driving in the advanced line, and squares were not often broken by a charge.

Where the Republicans were victorious the success was won not by bringing up the supports to carry forward the firing line as in the battles of to-day, but by sending a mass of men, or several such masses, in roughly formed columns to dash through the skirmish line and advance with the bayonet. With the troops of the half-trained armies of the earlier campaigns such a column would have been destroyed by the volleys of the enemy if it had to cross any wide space of ground. It was able to get into the hostile position without serious loss because it suddenly

pushed forward through a firing line not more than a hundred yards from the point of attack, and could cross the danger zone in a minute.

With such tactics the battle line was no longer formed by the Republicans, and the attack was made by the advance of several independent columns, often with wide gaps between them. The Allies were so badly led that they hardly ever took advantage of this to divide the Republicans and beat them in detail. Many of the old-fashioned generals were too puzzled at the irregular methods they had to meet to do more than attempt a passive defence on a wide front, which was weak everywhere.

Gradually in the hard school of war a real army was formed. It was no longer necessary to attempt to win battles by mobbing an enemy with five- or sixfold numbers, and there was no longer the imminent peril that a first check to an attack would end in a panic-stricken rout. Officers of the old army, who had thrown in their lot with the Republic, and men of courage, energy and talent who had fought their way up from the ranks, were the leaders of the new army of France, which had a nucleus of veteran troops, the survivors of more than one campaign, to stiffen the ranks and form a *cadre* for recruits. With such materials it was possible to manœuvre and to meet an enemy with merely equal numbers with good hope of success. It was no longer necessary to risk everything on the rush of a column that was little more than a moving crowd. The French infantry battalions could now deploy from column into line to use their weapons in ordered volleys, and on the drill grounds a new fighting order was practised which was soon used with success on the battlefield. Under the Empire it was known as the mixed order. A battalion or several battalions deployed in the three-deep line provided a front of fire, and on the flanks other battalions formed in column were ready to push home an attack, and meanwhile could rapidly form front to right or left to stop a cavalry charge on the flank of the firing

line. The skirmishers were still used to cover the advance, but no longer in large numbers. They drew off to clear the front for the fire of the ordered lines that were now the real fighting front.

In the second stage of the Revolutionary war, when the tide of victory turned in favour of France, the battle leading of most of the Republicans was good. They showed a dash and enterprise that made them more than a match for the aged generals opposed to them, whose title to command was usually that they had served under or against Frederick the Great. But in most of the campaigns the general conduct of the operations was equally bad on both sides. Armies were frittered away in detachments to guard every point that might be attacked under probable or improbable contingencies. Campaigns were planned on the basis of widely separated corps carrying out different tasks that had no necessary relation to each other. There was so little of real combination that there were times when the opposing generals on one part of the frontier made a truce with each other that lasted for weeks, while the war went on elsewhere. Sometimes the capture of a minor fortress was made the sole object of a campaign. Everyone seemed to have the idea that victory meant the occupation of this or that stretch of ground, not the destruction of the opposing army.

There was a brief interval of something like real war leadership when Carnot, as Minister of War, drove the Allies from the northern frontier by a concentration of superior strength against the divided forces that were trying simultaneously to reduce several of the border fortresses. But having established his reputation by this exploit, he relapsed into the planning of elaborate campaigns with divided forces that might have been the work of a War Minister of the seventeenth century.

But then the course of history was suddenly changed by the advent of a man who really understood war, a young soldier of surpassing genius whose study of military



history had led him to grasp the principle that great results are obtained in war only when the plan of campaign leads up to a decisive battle fought, not to cover a siege or occupy a district, but to destroy the main field army of the opponent. Bonaparte came to the front at a fortunate time for his future eminence. The French Republican armies had passed through the difficult years of reshaping under the stress of war, and were now efficient fighting machines, with plenty of veterans in the ranks and reliable officers to lead them. He had convinced the Paris Government of the folly of frittering away their resources in divided efforts on several frontiers, and had persuaded them that France could be best defended from the Austrian army in northern Italy not by defensive operations along the Alps, but by an offensive campaign. When in the early summer of 1796 he marched into the Genoese Riviera at the head of 40,000 ragged veterans he had a comparatively easy task. The Austrians were conducting the defence of the Genoese Apennines on the obsolete system of detachments everywhere, with the result that they were strong nowhere. The young Republican General fell upon their divided forces with united and superior numbers, turned them out of their mountain positions by combined frontal and flank attacks, separated their Sardinian allies from them and frightened the King of Sardinia into a separate peace, and then turned his attention to the expulsion of the Austrian army from northern Italy, an operation to be followed by a threat against Vienna through the eastern Alps. He refused to be diverted to minor operations. When the Directory ordered him to divide the command with Kellermann and make a dash at Rome and Naples, he replied by threatening to resign his commission, pointed out that the defeat of Austria in the north would secure possession of all Italy without frittering away his force on minor enterprises while the main issue was undecided, and finally declared that a divided command meant failure, saying he held that "one bad general was better

than two good ones." After this he was given a free hand.

It was again fortunate for him that he was engaged in the Eastern expedition, winning easy triumphs over Egyptian and Turkish troops during the dark days when the armies of the Directory were being everywhere defeated or checked by those of the Coalition. He returned to France at the most opportune moment, bringing the tidings of his victory at Aboukir. He was able to take the lead in the *coup d'état* which overthrew the Directors, he became master of France and was hailed as her deliverer. When he took the field for the campaign of northern Italy in 1800 he was both the ruler of the State and the commander-in-chief. He had thus an absolutely free hand for his combinations. It was an ideal position denied to many of the great leaders of war, and this position he held to the end of his career.

It is doubtful if any general who had to persuade a Government to accept his plans would have been allowed to risk the daring enterprise of the campaign of 1800. It ended with the victory of Marengo, which confirmed his position as master of France, but was perilously near being a defeat. The Austrians under Melas had overrun northern Italy and were besieging Masséna in Genoa and menacing Provence. Instead of marching by the Riviera—as he had done in 1796—he sent his army over the snowy passes of the Alps and surprised the Austrians by appearing in their rear on their main line of communication and retreat. He had effected what they supposed to be an impossibility.

The First Consul hoped that his mere descent into northern Italy by the Alpine passes would startle Melas into raising the siege of Genoa. He did not know to what extremities the garrison had been reduced. On the eve of succour Masséna had to surrender, but the alarm of the Austrians secured for him the concession of singularly favourable terms. Then Melas, leaving a garrison in Genoa and a force to watch the French corps of Suchet

on the Riviera, drew together some 30,000 men at Alessandria on the Bormida to oppose Bonaparte, after an Austrian division, trying to break through between the Po and the Apennines, had been defeated by the French vanguard under Lannes at Montebello.

Bonaparte had only about 28,000 men with him for the actual advance on Alessandria. He was weak in artillery. The Austrian fort of Bard had so long blocked its transport over the Pass of the St. Bernard that only eighteen guns had yet reached him. He expected that Melas would move out of Alessandria southward to reach Genoa, where he would be supplied by the British fleet. He therefore detached a force under Desaix to bar the Austrian retreat over the Apennines. On 13 June the French crossed the little river Scrivia and advanced into the plain of Marengo, which extends eastward from the banks of the Bormida opposite Alessandria. Murat's cavalry and Victor's division were pushed well to the front. An Austrian detachment was found posted about the village of Marengo. Victor stormed the place and pursued the enemy to the banks of the Bormida, where the French came under the fire of heavy guns in an entrenchment covering the two bridges that led across the river to Alessandria. Victor fell back to Marengo, and his division bivouacked along the brook that runs past the village. They had taken two guns and some hundreds of prisoners.

The First Consul thought that if Melas meant to fight in the plain of Marengo he would not have made such a weak defence, and he was misled by reports of prisoners and spies that the Austrians were preparing to march northwards and try to escape across the Po. He therefore did not expect a battle next day.

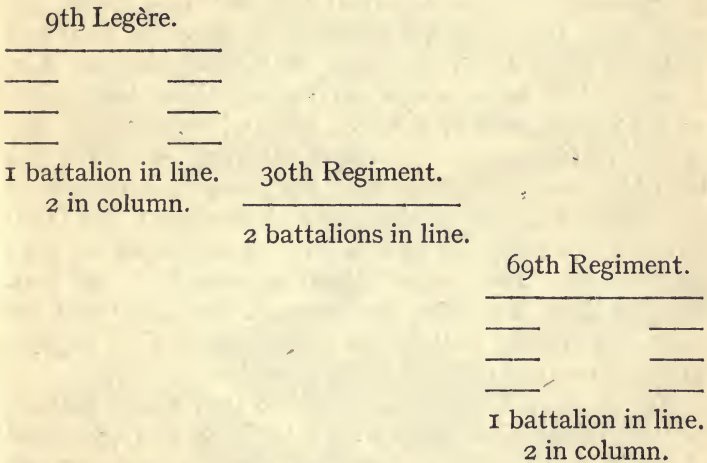
But as the sun rose it was found that Melas had been crossing the Bormida opposite Marengo during the night. The Austrians had two bridges, but there was only one outlet through the entrenchments covering them, so the deployment of their army on the French side of the river

was considerably delayed. Nevertheless, though all their force was not in line, they were able to begin the attack on the French vanguard about Marengo at daybreak. Bonaparte had immediately available about 18,000 men with 15 guns. Melas was bringing more than 28,000 men and 80 guns into action. Hurried messages were sent to Lapoype and Desaix to march with all speed to the scene of action. The former was too far away to arrive in time, but Desaix's intervention turned defeat into victory.

For in the earlier stages of the battle of Marengo it seemed that the day would be one of disaster that would end the career of General Bonaparte. But for Desaix's opportune arrival and vigorous action there would have been no "Napoleon." The French veterans who held the village and the line of the brook at Marengo fought magnificently, aided at first by the fact that the Austrians were bringing their force very slowly into action. But as the attack developed they were gradually forced back across the open plain. Some hundreds of prisoners were taken by the Austrians and sent across the bridges into Alessandria. Some of the few French guns had to be abandoned. Under the strain of a long retirement in the open, cannonaded by a greatly superior artillery and menaced by masses of hostile cavalry, the men were perilously near the breaking-down point, and it was with difficulty that the officers could steady them. All seemed lost when the word was passed along the lines that Desaix had come at last.

The Austrians, counting now on an easy victory, were strung out in a long irregular battle line, extended with a view to working round the flanks of the beaten army and cutting off its retreat. Melas had no reserve in hand, for he anticipated no new attack. He was in fact letting things drift and thinking the battle was safely won, and what remained to do was only to make prisoners and capture guns. Desaix, hurrying up from the south, came

upon the Austrian right and struck with deadly effect. He flung his leading division into action in mixed line and column, an order that gave a considerable front of fire and at the same time kept solid masses on the flanks of the firing line ready to form against any attempt of the Austrian cavalry to break in upon them. A diagram will explain



DESAIX'S ATTACK AT MARENGO.

the formation more clearly than a long description. It was in this formation, the veteran regiments moving with the steadiness of a drill parade, that Desaix advanced with his eight leading battalions, bringing a storm of musketry fire to bear on the Austrian flank, and rolling up their line. The attack came as a surprise. The roar of fire from the southward, the sight of the Austrian right giving way, rallied the French army everywhere to a new effort. A charge of Kellermann's cavalry broke through the enemy's right centre. In half an hour the whole aspect of the fight had changed. The Austrians were falling back on Marengo with the French, now victorious, pressing fiercely upon

them. Desaix fell shot through the head as he urged the pursuit. Melas was only too glad to get most of his army across the Bormida, leaving 13 guns, 8 standards and nearly 3000 prisoners in the hands of the French.

The victory thus won in the midst of menacing disaster was a costly day for the French. They had lost nearly 5000 killed and wounded and 900 of them were prisoners in Alessandria. The Austrians had lost 6500 killed and wounded. If we add the prisoners to these, the total loss to Melas was nearly 10,000 men out of something less than 30,000. And he was now driven back into Alessandria with all hope gone of breaking out and reaching the fortresses of Lombardy. He could not even feed what was left of his army. The very next day he signed a convention by which he agreed to hand over all Piedmont and Lombardy to the First Consul in return for permission to retire into Venetia. The greater part of northern Italy had been conquered at one blow, and Marengo had confirmed the fame and prestige of the First Consul, ensured his position in France and made the Empire possible.

Yet we have seen how near he had been to destruction. In the bulletin of victory sent to Paris and published throughout France he concealed the fact and entirely misrepresented what had happened.

The abandonment of the Marengo position and the retreat of the French across the plain were represented as a preordained manœuvre meant to lure the Austrians to destruction; to keep them engaged till Desaix struck in from his flank position and draw them on to ground where their right would be exposed to the decisive blow that won the battle. At various times he published modified accounts of the day. But he never admitted the full truth, never confessed that he had misjudged the situation and had been within a narrow space of destruction.

He had already won decisive battles, but Marengo was one of the epoch-making days of his career, and as such it was linked with greater days of battle in the years to



DRUMMER, PRIVATE, SERGEANT AND OFFICER, 1789  
(The sergeant carries the "spontoon"—a light pike)

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## BATTLES OF THE FRENCH EMPIRE 177

come as an action of the first rank, a name to which to appeal when inspiring his marshals and veterans to a great effort. But before he entered upon the series of triumphs which he won as the new master of France—and soon as Emperor first of France and then of Western Europe in all but name—he forged a weapon of conquest by forming the “Grand Army,” the most splendid fighting force the world had seen till then.

The French Empire was proclaimed while the *Armée d'Angleterre*—the army destined for the invasion of England—was encamped along the shores of the Channel about Boulogne. The formation of that army—afterwards known during years of victory as the Grande Armée<sup>1</sup>—marked an epoch in military history. For Napoleon introduced a new and most important feature into its organization. This was the subdivision of the huge assemblage of men, horses and guns into a number of subordinate armies known as “*Corps d'armée*”—“Army Corps.” It was a new departure, but at the same time it was a revival, probably an unconscious revival, of the essential features of the Roman legion. Though each Army Corps was made up of a larger number of men than had ever been found in the ranks of a single legion, the Army Corps was, like the Legion, a little army, complete in all arms, with its own infantry, cavalry, engines of war, transport and administration.

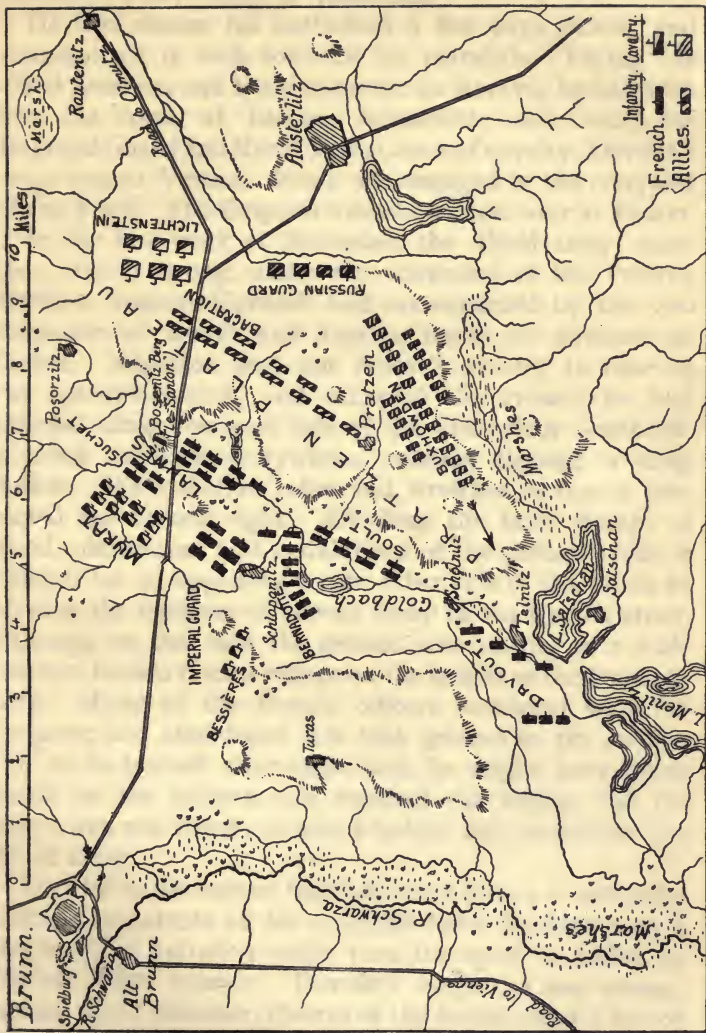
Napoleon had recognized that with the growth of armies it was impossible, even for a man of his marvellous power of dealing with detail, to direct from one centre the working and the movements of hundreds of regiments, squadrons and batteries. The corps commander was made responsible for from 25,000 to 40,000 men. This was a force with which the individual could deal. It was also a force that could be closed up and formed into a line of battle in a single day's march. The existence of these

<sup>1</sup> Usually translated “The Grand Army,” but really “The Great Army.”

subordinate commands simplified the whole routine of the general head-quarters of the army. In planning a campaign, a march, a battle, it was now necessary only to assign to each corps commander his task and his line of operations. The previous organization of divisions and brigades remained as before, but the divisions were grouped in Army Corps. With 150,000 men on the move, instead of having to assign their places to fifteen or twenty divisions and send orders to as many generals, there was now only the easier task of giving orders to five marshals or generals each commanding a corps.

And the Army Corps were not mere lists drawn up on paper for the grouping together of units on the declaration of war. The corps were formed in the camps of Boulogne, and lay there for long months under the command and subject to the training of the marshals who were to lead them in battle. Regiments became accustomed to act together. Men and officers came to know and trust each other. The Grand Army, largely officered by veterans of many campaigns, and with tens of thousands of old soldiers of the wars of the Revolution to consolidate its ranks, would in any case have been a fine fighting force. But with these months of camp life and training superadded, it was the most formidable fighting machine that had yet been seen in Europe—perhaps in the world—even without taking account of the transcendent genius of the great soldier who commanded it, and whom it obeyed with an enthusiasm that made all things possible.

When the Emperor's elaborate plan for obtaining temporary naval command of the Channel ended in failure, and a new Coalition threatened France, the camps of Boulogne were broken up and the Grand Army marched across the Rhine to win its first victories. An Austrian army under Mack pushed forward into South Germany was out-manceuvred and compelled to surrender; Vienna was occupied, and Napoleon advanced into Moravia to meet the combined armies of Austria and Russia. There,



BATTLE OF AUSTERLITZ

Dec. 2, 1805



CHINESE LAND TITLES

on 2 December, 1805, he won what was perhaps his most brilliant victory—that of Austerlitz.

He had chosen his battlefield a few days before, and reconnoitred it with some of his marshals. Facing the allied Austrian and Russian armies in Moravia he had with him the corps of Lannes, Bernadotte and Soult, the Imperial Guard and Murat's great mass of cavalry. Davoût's corps was at Vienna. Ney's was engaged in the conquest of the Tyrol. The Emperor's head-quarters were at Brünn.

In the last week of November the Allied army, more than 80,000 strong, under the command of the veteran Russian General Kutusoff and accompanied by the two Emperors of Russia and Austria, began its advance on Brünn. Napoleon sent out Murat's cavalry to observe the enemy's march, and occupied the ground he had selected along the west side of the little river Goldbach, a brook fordable everywhere, running through a deep hollow. Wide shallow lakes and stretches of marsh protected the French right. All along the front clumps of wood, plantations and undulations of the ground made it difficult for an opponent on the other side of the brook to observe the numbers or precise array of the French army, although on that side the ground rose steeply to a wide plateau, known from a village on the height as the Pratzenberg. Many of the French officers wondered why the Emperor had abandoned this high ground to the enemy. But as he himself afterwards said, he might have given battle on the plateau and repulsed the enemy, but his object was not merely to win a battle, but to destroy the Allied army.

Faithful to his maxim that before a battle a commander should concentrate all his available force, because even a single added battalion might turn the scale, he called up Davoût from Vienna. Davoût's corps, 11,000 strong, arrived on 1 December, the eve of the battle, after a forced march in which it covered ninety miles in forty-eight hours. By this time Kutusoff's army had reached the eastern side

of the Pratzenberg, and the Allied head-quarters were established at the little town of Austerlitz. Kutusoff believed that Davoût was still at Vienna, and that the Allied army very heavily outnumbered the French. Even with Davoût's corps thrown into the scale, the Austro-Russians had a considerable advantage in this respect. They numbered 82,500, including 16,500 cavalry. Napoleon had with him 65,000 men, of whom 15,000 were cavalry.

One of the highest qualities of a leader in war is the keen judgment and knowledge of men that enables him to divine his enemy's plans. Napoleon showed this quality in an eminent degree at Austerlitz. He predicted that Kutusoff would attack his right in order to cut him off from his line of communications with Vienna. The Russian general would hope to drive in and turn his flank, and force the beaten French army back through Brünn. Such a victory would open the way to the recapture of the Austrian capital and expose the beaten French army to the attack not only of the victors, but of the Prussians also. They were hesitating to move. A success at Austerlitz for the Allies would bring them at once into the field and on the flank of the French line of communications and retreat through Brünn. Reconnaissances during 1 December confirmed the Emperor's view by revealing the fact that the enemy was moving great masses of troops towards the Allied left.

Napoleon's plan for the battle was greatly daring, and at the same time clear and simple. Commenting on the orders of one of his opponents in another great battle, he said that they covered six big pages of close writing, which was alone enough to show that they were stupid. His orders were of the briefest.

Davoût's corps on the right was to hold the ground between the Satschan lake and the village of Scholnitz. Lakes and marshes would protect his flank; swampy ground covered part of his front. Whatever numbers the enemy brought against him they would be packed together

on a narrow front. Davoût would practically have to hold the opening of a defile, where against a steady defence great numbers would count for little. Lannes was to hold the other flank. A hill on this side—the Bosenitzberg (known in French narratives of the day as the “Santon Hill”)—was entrenched and heavily armed with artillery. On this side the ground to the north was favourable for cavalry, so Murat’s horsemen were posted with Lannes. This left available for the centre the corps of Bernadotte and Soult, the Imperial Guard and the cavalry of the Guard under Bessières. These three corps were to be the Emperor’s striking force—Soult and Bernadotte for the first attack, the Guard in reserve. Kutusoff was to be allowed to commit himself to the attack on Napoleon’s right. The more troops that were sent in this direction the weaker would be the Allied centre. Napoleon rightly conjectured that the enemy would expect him to fight a defensive battle, and would not be prepared for a vigorous attack. He hoped to break through the Allied centre by an advance to the heights of the Pratzenberg, and this done, fall upon the masses of troops that were crowded together to the southward for the attack on Davoût.

Napoleon had ordered his marshals to meet him at seven on the morning of 2 December to receive any instructions that might be necessitated by information obtained during the night. He told them there was nothing to modify in his orders, and predicted that the day—the anniversary of his coronation—would be marked by a brilliant victory. As he spoke with them the sun was rising behind the enemy’s lines—a bright sun in a clear, cold sky—the “sun of Austerlitz,” so often alluded to in his subsequent proclamations. A mist still lay along the hollow of the Goldbach, concealing the French positions from the enemy’s sight, but looking across the valley it was easy to make out with the telescope the dispositions and movements of the Allies on the higher ground. Away to the southward dense masses of troops were marching in huge columns

across the shoulder of the Pratzenberg, heading for the narrow ground between marsh and half-frozen lake where Davoût's veterans, few but fearless, were waiting to bar their way. Napoleon watched the movement for a while, well satisfied with the sight. Kutusoff had crowded together for this attack nearly half of his whole force.

The fighting began on the other flank. Bagration's artillery was in action with the guns on the Santon height. His infantry was moving up to attack Lannes, and behind them the sunlight flickered on helmet, lance and sword where a great mass of cavalry under Prince Lichtenstein was moving up, with clouds of Cossack spearmen in its front. All this display was probably intended to make Napoleon reinforce his left. But he trusted to Lannes to hold firm, and did not move a man. The more active the enemy were against his flanks the less resistance there would be when he hurled his sledge-hammer blow against the Allied centre on the Pratzenberg.

Davoût's veterans held their ground stubbornly, yielding a little before the pressure of the great attack which was directed against them by the Russian General Buxhowden. Napoleon waited till thousands had descended to the low ground in front of the village of Telnitz, and then gave the order for the attack on the Allied centre. First Soult, then Bernadotte, moved across the Goldbach. The advance was made in echelon of brigades from the right, the leading brigade of each corps being followed up by the second not immediately in its rear, but a little to its left. The formation of each brigade was a battalion in line with others in column on each of its flanks and protecting them, the "mixed order" henceforth frequently adopted by the Grand Army, and supposed to unite the advantages of the line, with its wide front of fire, and the column, with its depth and force. The crest of the plateau was reached without any resistance, and then the two corps found in their front a mere screen of troops that gave way at once before them. The nearest of Bux-



howden's columns was swung round to meet an attack which Soult now hurled against the mass of troops on the Allied left. The Russian Guards were moved up to retake the Pratzenberg, and Lichtenstein's cavalry charged Bernadotte. But the Imperial Guard and Bessières' cavalry had now crossed the Goldbach, and after a fierce struggle the Allied reserves were driven back towards Austerlitz. Outnumbered on the whole field of battle, Napoleon had managed to strike with superior force at the decisive point. He had pierced through the Allied position, and he had three corps well in hand on the Pratzen heights, on the flank and rear of Buxhowden, who was engaged with Davoût in his front. The Allied left collapsed under the attack, and immense numbers with their retreat cut off surrendered or were driven into the lakes and swamps on their left.

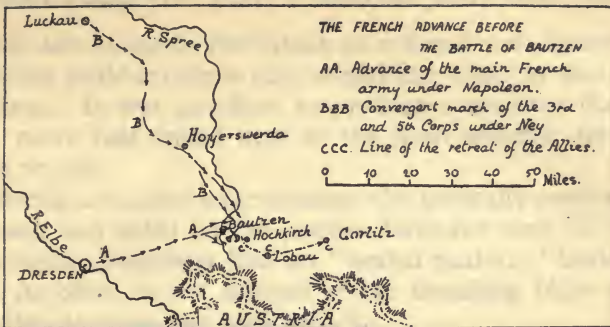
Northwards Bagration's attack, now isolated from the rest of the Allies, gave way before a counter-attack of Lannes and Murat. The French cavalry had already successfully engaged Lichtenstein's horsemen. Murat now charged the Russian infantry and, screened by his dash at their squares, Suchet's infantry came up to close quarters, and as the cavalry drew off charged the enemy with the bayonet, driving everything before them. With a little more promptness on Bernadotte's part the Allied right wing might have been cut off and forced to surrender. Bagration succeeded in extricating himself from a position of grave peril with the utmost difficulty, and retired eastward hard pressed by Murat's horsemen.

The battle ended shortly before sunset. The Allies were everywhere in retreat. They left more than 12,000 men killed and wounded on the field, and 15,000 prisoners, 133 guns and 50 colours in the hands of the victors. One-third of the Allied army were thus killed, wounded or prisoners. The French loss was 6800 killed and wounded.

A stroke against an enemy's centre was not unfrequently a feature of Napoleon's battles. At Austerlitz the centre

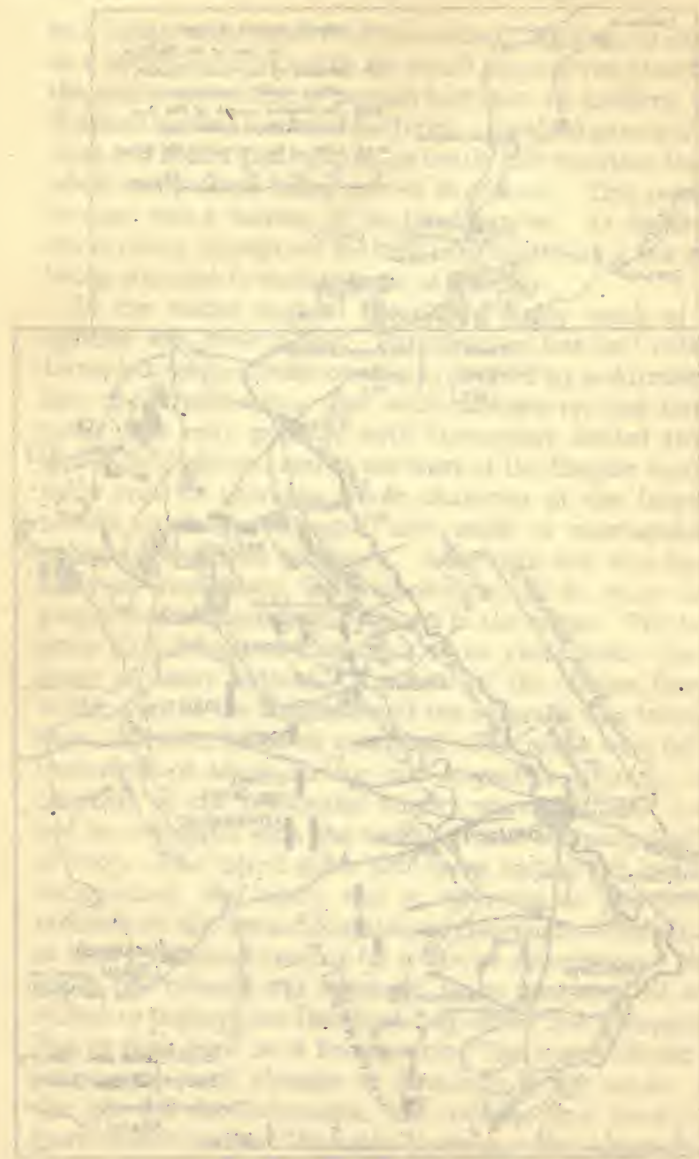
was dangerously weak from the outset. Against an enemy in a better order of battle he would prepare the attack by the concentrated fire of massed batteries of artillery. At Wagram he used a mass of batteries, a hundred guns in all, to close and hold a great gap in his battle line resulting from a whole army corps being moved to a flank. This massing of guns was a feature of his later battles. At Austerlitz the artillery (except on the left) was dispersed, a few guns being attached to each brigade of infantry.

In the earlier days of the Grand Army much of the fighting was done in line. Battalions in line and column formed the mixed order of attack, covered by a skirmishing line of sharpshooters. But such manœuvres and formations were only possible with thoroughly drilled troops under good officers, and as the wars of the Empire went on from year to year the whole character of the Imperial armies gradually changed and made a corresponding change of methods necessary. Austerlitz was won by an army of Frenchmen, with officers formed in many campaigns and thousands of veterans in the ranks. The huge army that fought at Borodino, seven years later, was an array of many nations. Numbers of the officers formed in the wars of the Republic and the veterans who followed them had been killed or invalided. The ranks were full of conscripts of short service and imperfect training, and numbers of the regimental officers were men who could not be compared with the battalion and company leaders of 1805. The mixed order and linear tactics fell into the background, and there was a reversion to the battle methods of the earlier Republican campaigns—the attack in heavy columns covered by a line of skirmishers. Normally the column was supposed to be composed of men drilled to deploy into the three-deep firing line if required. But as time went on it became more and more difficult to count upon such changes of formation being made. So the line fell into abeyance, the column grew more and more massive, till at Waterloo there was the spectacle of



### BATTLE OF BAUTZEN

May 20 and 21, 1813



Map of Indian Lands  
 showing the river system

divisions advancing to the attack in a dense mass formed by placing half-battalions one behind the other in three-deep lines. It was an effort to produce a machine that would move half-drilled men to the front whether they liked it or not.

Frederick's victories over enemies who generally awaited his attack and acted on the passive defensive were all of one pattern. Napoleon had no "sealed pattern" battle plan. As often as not instead of the smashing blow at the centre he chose the flank attack.

One of the most interesting of these Napoleonic flank-attack battles is that of Bautzen in the spring campaign of 1813. His success that day nearly restored his fortunes, and might have done so if the victory had been as complete as he hoped it would be, and as it would have been if Ney, who commanded the flank attack, had thoroughly carried out his orders. The battle is interesting too from the fact that its plan was not unlike that of Sadowa half a century later—the attack by two armies marching on converging lines and uniting on the battlefield, one making the frontal, the other the flank attack.

The Allied army of Russians and Prussians under the command of Wittgenstein—about 97,000 strong—held the heights of Bautzen, on the upper course of the river Spree, about thirty-six miles east of Dresden. In the middle of May (1813) Napoleon moved out from Dresden to attack them. He had with him the Imperial Guard and four Army Corps (Soult, Marmont, Macdonald and Oudinot). Marshal Ney was detached at Torgau, north of Dresden, with three corps (his own, Lauriston's and Reynier's). Ney at Torgau was threatening Berlin. Napoleon directed him to advance to Lackau as if moving on the Prussian capital, then, leaving Reynier there, he was to turn to the south-east from Lackau, and by a forced march combine with the main army in the attack on the Bautzen position, striking at its right flank, and once he came into action marching on a point that would cut the line of retreat of

the Allies. The mere capture of the Bautzen heights was not Napoleon's object. He wanted to destroy the Allied army, to win a decisive victory—another Marengo or Austerlitz—after which he could dictate peace.

He had a great superiority in numbers. He could muster about 100,000 men for the frontal attack, and Ney had 60,000 more for the flank movement. On 20 May Napoleon attacked the advanced Allied position along the Spree held by Milarodovitch and Kleist, and by nightfall had possession of the whole river line and the town of Bautzen. In the afternoon Ney came into action, and his vanguard forced the crossing of the river further north at the village of Klix.

Next day came the combined attack on the main position along the heights on the east bank of the Spree. Napoleon opened the battle at sunrise by sending Macdonald and Oudinot to attack Milarodovitch's Russian corps on the Allied left in order to draw the enemy's reserves to this side. Along the rest of the front for some hours there was only a cannonade, but northward Ney attacked the Allied right; Barclay, who commanded here, had thrown his corps back at a right angle to the general front to meet this advance. Ney directly attacked with his own corps, and sent Lauriston to outflank Barclay's extreme right.

Napoleon's orders to Ney were that his two corps were to converge on the village of Preistitz, which he was to occupy by 11 a.m. The flanking force would thus be in the rear of the Allied right, and the point of direction for its further advance was then to be the tower of Hochkirch church, standing on the highest point of the hills behind the Allied lines on the Bautzen-Lobau road. As Ney thus pushed his way behind the enemy's position, cutting their lines of retreat, Napoleon with Marmont and Soult's corps and the Imperial Guard would drive in the Allied centre.

By eight o'clock Ney had his 60,000 in action against less than 14,000 under Barclay. The Russians fought well, but despite reinforcements were steadily pushed

back. By ten o'clock Ney was attacking Preistitz with two divisions, extending another division to get into touch with Soult. Napoleon then began the advance against the centre. Preistitz taken, lost to a counter-attack and then retaken again, was finally in Ney's possession about two in the afternoon.

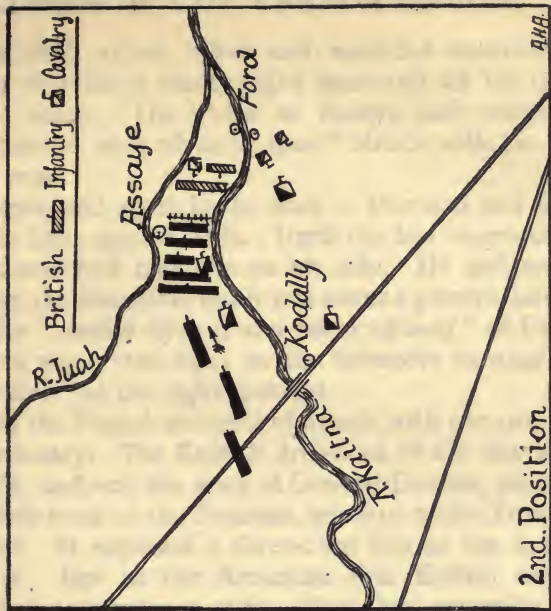
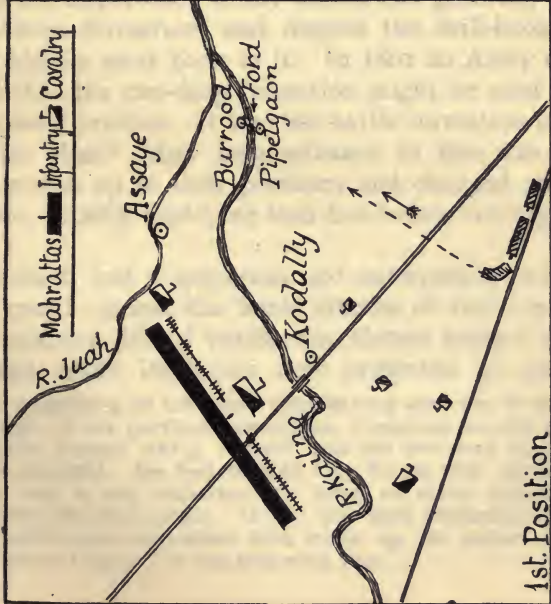
The Allied left was then giving way, the centre was being forced back, and the right was beaten and partly cut off from the main body. Ney had now only to press on towards Hochkirch and the defeat of the Allies would become a disaster. But he seemed to lose all sense of direction in the confusion of the fight on the plateau, and his two corps drifted more and more and more to the right, joining with Soult in forcing back the centre of the Allies instead of cutting their line of retreat. Wittgenstein very ably formed a line to cover the Lobau road, and drew off his corps one by one past Hochkirch, covering the retreat with his numerous cavalry, an arm in which the French were weak. He left very few prisoners behind him, and of his 627 guns he got away all but nine. He had lost more than 10,000 killed and wounded, but the Allies had fought so stubbornly that Napoleon had lost 25,000 men. Ney's error had made the defeat indecisive. Bautzen is an admirable example of the difference there is between merely scoring a victory and deciding a campaign.

The French army that fought in the war of 1813 was largely composed of new levies, and many of the younger officers had little training and less experience of war. With officers and men like those that fought at Austerlitz Napoleon would have utterly crushed an enemy who ventured to meet him with such a marked disadvantage in numbers. One cannot understand the history of Napoleon's wars and battles unless one realizes that from the days of Austerlitz and Jena there was a continual depreciation, the waste of war diminishing the veteran element of the earlier campaigns and the Imperial armies becoming more and more of a mixed and improvised

character. The Grand Army was at its best in 1805 and 1806. Its deterioration began in the winter campaign after Jena. Its second period lasted from the beginning of 1807 to the disastrous Russian campaign. Its third period of least efficiency ended at Waterloo.

The battles of the Peninsular War belong to the second period. Wellington had for the most part to encounter troops that could no longer be trusted to manœuvre in the mixed order of Austerlitz, and whose attacks were made only in heavy columns covered by skirmishers. He had had his first experience of war in the Duke of York's ill-managed campaign against the Republican troops in the Netherlands. In India he first held independent command. Napoleon spoke of him contemptuously as a "general of sepoy." But in these Eastern wars he had won a decisive battle against terrible odds in which he showed real genius for command. At Assaye, on 23 September, 1803, he found himself opposed to nearly 50,000 Mahrattas with a force of only 4500 men, of whom two-thirds were native troops. The Mahratta army held the north bank of the Kaitna river near the village of Assaye. Away to their right the Juah river joined the Kaitna at a sharp angle, and near the confluence the English leader noticed two villages fronting each other on the Kaitna. "There must be a ford there," he said. Screening his march with his horsemen, and by following the hollows of broken ground, he reached the ford, crossed the river and formed his little army for battle in the angle between the rivers with his flanks resting on them. Scindiah, who led the Mahratta host, marked the manœuvre too late. His army changed front to attack the British, but in the narrow space between the rivers he could only fight on an equal front. Following the recognized rule of Eastern warfare Wellington attacked, reckless of odds, and found the enemy wedged in a great mass between the two streams and unable to use their advantage of numbers. He routed the Mahrattas, losing a third of his own force, but strewing





BATTLE OF ASSAYE



the plain with 12,000 killed and wounded enemies and capturing Scindiah's ninety-eight guns and all his transport and camp. The victor of Assaye had conquered against tenfold odds when he thus "struck with his fiery few and won."

And again and again in the wars of Portugal and Spain he had to fight against odds. Until the last stages of the war he never had numbers on his side. He had mostly to fight on the defensive, but it was never a passive defence. It was the "*combat défensif avec retour offensif*" of French writers on war, "the fight on the defensive turning into the offensive" at the right moment.

He met the French columns of attack with the two-deep line of infantry. The English drill-book of the day dated from 1788, and was the work of General Dundas, modelled on the drill-book of the Prussian infantry under Frederick the Great. It enjoined a three-deep line as the fighting formation. But in the American War British officers, realizing the importance of fire effect, had generally used the two-deep formation, and despite the drill-book the army gradually went back to it. In 1801 an Army order directed that the two-deep formation might be used even at ceremonial reviews. It was the battle formation of the Peninsular War.<sup>1</sup> Any long advance in line was rare. Troops moved up to their positions and changed ground in column, rapidly deploying into line before coming into action.

The French had a numerous and enterprising cavalry, and to guard against the flank attacks of this arm the British infantry line of battle was always formed either on ground where its flanks were protected by natural

<sup>1</sup> It is interesting to note that after having used the three-deep line through all his previous campaigns, Napoleon, on the eve of the battle of Leipsic (1813), ordered that the two-deep formation should be adopted. He had to hold long fronts with diminished numbers, and it was important to bring as many muskets as possible into effective action. It was also used frequently by the small brigades and battalions that made up his armies in the "Campaign of France" in the following year.

obstacles or by posting cavalry and infantry behind the exposed flank. Wherever possible the line was formed behind a crest, where it was somewhat sheltered from the fire of the hostile artillery. As the French columns of attack advanced the infantry crowned the crest to meet them. The line was protected in front from the French skirmishers by a strong skirmish line provided by special rifle corps, the light companies of the regiments and certain battalions that were armed with a lighter musket, drilled for skirmishing and known as "Light Infantry."

Formed of very diverse and often unpromising materials, the infantry of the Peninsular War was brought by thorough training and firm—often severe—discipline to a pitch of steadiness that made it all but invincible when opposed to the French columns of attack. French soldiers, who had fought in the Peninsula, told how on the day of battle at the outset they saw nothing of the British line but its artillery and the advanced skirmishers. When these fell back before the attacking columns the "thin red lines" showed themselves on the position. Not a shot was fired till the head of the column was within short range of the musket. Then the volleys crashed out, the wings of the line were thrown forward, and under the cross fire the column gave way, often breaking before the mere menace of a bayonet charge.

Marshal Bugeaud, famous for his campaigns in Algeria in later years, served as a regimental officer in the Peninsula. He has given a striking account of the conflict between column and line. It has often been quoted, but part of it may be quoted once more for the sake of the vivid impression it gives of an episode of the kind that recurred again and again in Wellington's battles. He tells how as the column advanced :

"the men would get restless and excited ; they exchanged ideas with each other ; their march began to be somewhat precipitate, and was already growing a little disorderly. Meanwhile the English, silent and impassive, with grounded

arms, loomed like a long red wall ; their aspect was imposing—it impressed novices not a little. Soon the distance began to grow shorter ; cries of ‘ *Vive l’Empereur ! En avant ! A la baïonette !* ’ broke from our mass. Some men hoisted their shakos on their muskets. The quick step became a run ; the ranks began to be mixed up ; the men’s agitation became tumultuous, many soldiers began to fire as they ran. And all the while the red English line, still silent and motionless even when we were only 300 yards away, seemed to take no notice of the storm which was about to beat upon it. The contrast was striking. More than one among us began to reflect that the enemy’s fire, so long reserved, would be very unpleasant when it did break forth. Our ardour began to cool ; the moral influence (irresistible in action) of a calm which seems undisturbed as opposed to disorder, which strives to make up by noise what it lacks in firmness, weighed heavily on our hearts.

“ At this moment of painful expectation the English line would make a quarter-turn. The muskets were going up to the ‘ ready.’ An indefinable sensation nailed to the spot many of our men, who halted and opened a wavering fire. The enemy’s return, a volley of simultaneous precision and deadly effect, crashed in upon us like a thunder-bolt. Decimated by it, we reeled together, staggering under the blow, and trying to recover our equilibrium. Then three formidable ‘ Hurrahs ’ ended the long silence of our adversaries. With the third they were down upon us, pressing us into a disorderly retreat. But to our great surprise they did not pursue their advantage for more than some hundred yards, and went back with calm to their former lines to await a further attack.”<sup>1</sup>

Wellington’s infantry showed a reckless disregard of terrible losses in the storming of besieged fortresses ; and when opposed in the open to masses of French cavalry they displayed the same calm, imperturbable discipline and courage that enable the thin red line to wreck the

<sup>1</sup> The above is an abbreviated transcript of the translation of Bugeaud’s narrative given by Professor Oman in his *Wellington’s Army*.

heavy column of attack. No charge could break a British square, and twice (at Fuentes d'Onoro and El Bodon) infantry steadily retired for miles beset by a storm of hostile horsemen, and remained undismayed and unbroken. In the former case, among the troops who stood this trying test so well, there were not only British regiments, but two Portuguese battalions trained by British officers.

With soldiers like these a general could dare and do anything. At Vittoria, the crowning triumph of the Peninsular War, Wellington attacked, and the attack had to be made against the French army in a strong position on the hills behind a bend of the river Zadora. The position was captured by a combined frontal and flank attack.

In the last battle of the wars of the Empire—Waterloo—the two great captains of the day met face to face. It was a typical Wellington battle—the British line just behind the crest of the long rise of ground across the Brussels road; the dogged defence against the attacks of the French infantry and cavalry; the final charge and general advance after the repulse of the Imperial Guard. For Napoleon too it was a typical battle—the attempt to break through the British centre; the attacks of massed columns of infantry; the preparation of the great attack by the fire of a huge battery of eighty guns. The cavalry charges were a repetition of the great onsets that had helped to win earlier battles, but here no Murat directed the storm of horsemen, and the cavalry were no longer the splendid squadrons of the wars before the disaster in Russia. But the infantry that opposed them were the same type of men who had beaten off more formidable enemies on the Peninsular battlefields.

The decisive move of the battle was the converging march of Blücher's Prussians against the French right. The earlier English accounts of the great day did much less than justice to our ally. Very early in the afternoon Napoleon had to divert troops from his main battle line

to a new line at right angles with it to protect his flank. This drain on his resources went on all day. The battle was like Sadowa, a fine type of the combined action of armies uniting on the battlefield. It was an eventuality which the Napoleon of earlier days would have taken into account and provided for. But the Napoleon of Waterloo was no longer the war leader of Austerlitz and Jena, and the Wellington of Waterloo was at his best.

## CHAPTER XI

### BEGINNING OF THE MODERN PERIOD—THE BATTLES OF THE CRIMEAN WAR

**A**FTER the final collapse of Napoleon's power at Waterloo there came what some English popular historians have called the long peace. It is true that for nearly forty years England was not at war with any European Power, but these years were not by any means a time of unbroken peace for the world. There were civil wars and rebellions and foreign interventions by armed force in most of the countries of Europe. England herself was at war in various parts of Asia from Syria to China. There was a war between Turkey and Russia, and much irregular fighting in the two Americas, besides a regular war between the United States and Mexico. But all this fighting was carried out on the general lines of that which had marked the wars of the Revolution and the Empire. There was little change in armament or tactics. The veteran officers of the great wars were the men who dictated opinion on military questions, and they were mostly rigidly conservative in their opposition to change or improvement.

In the latter years of this period percussion caps superseded flints as the means of firing off small arms. In England the change was resisted by old officers of Wellington's school. "These percussion caps may be all very well," said one of them, "for Continental armies that fight at home, near their factories, but we have to fight all over the world, and one can get flints anywhere. We should stick



to flints." It was in the same spirit of exaggerated conservatism that some years later an artillery general, who had served at Waterloo, expressed his dislike of the new-fangled notion of rifled field artillery, and clinched his argument with the statement, "We won Waterloo without such things, and what do we want them for after that?" Perfection in parade-ground movements was the sum and total of military efficiency, and armies had neither manœuvres on open ground nor much practice at the musketry ranges. But they were composed of long-service soldiers, and the men, though few, were fit. The records of our Eastern wars of the time are sufficient to show that they were equal in endurance, discipline and courage to the army that won the battles of the Peninsula, and the final victory of Waterloo.

The "long peace" was at last broken in 1854, when France and England formed an alliance to defend Turkey from the aggression of the Czar Nicholas I, and the last battles fought in Europe on the general lines of those of the old days of Napoleon and Wellington were the battles of the Crimea. The campaign was mostly the prolonged siege of the dockyard fortress of Sebastopol, which began on 9 October, 1854, and ended with the assault on the southern works on 8 September, 1855. Four battles were fought during the campaign—the Battle of the Alma during the advance of the Allies (British, French and Turks) from their landing-place on the west coast of the Crimea (20 September, 1854), and three other battles arising from Russian attacks on the besieging lines or the covering force, namely, Balaclava (25 October, 1854), Inkerman (5 November, 1854) and the Tchernaya (16 August, 1855).

The Allied Army which invaded the Crimea was a force of about 65,000 men, with 124 guns. There were 26,000 British troops under Lord Raglan, a veteran of the Peninsula; 32,000 French under Marshal St. Arnaud; and 7000 Turks under Omar Pasha. The landing began at Old Fort on the west coast of the Crimea on 14 September.

The advance upon Sebastopol began on the 19th. The Russians, under Prince Mentschikoff, an old soldier of the Napoleonic wars, opposed their march next day at the point where the Sebastopol road crosses the little river Alma, and ascends by a narrow ravine-like valley the line of bold heights that forms the southern bank of the stream. Mentschikoff had only 35,000 men at his disposal, but he relied on the strength of the position to make up for the disadvantage of numbers.

Below the heights, along the course of the river, there was a belt of orchards, gardens and vineyards, with three villages of wood-built houses. Near the largest of these—Burliuk—the road crossed the Alma by a bridge. Mentschikoff considered that the heights near the sea were too steep for an attacking force to ascend them, so he left this part of the high ground unoccupied, merely placing a small detachment with four guns at the village of Ululuk Akles, not to watch the steppe to the northward, but to guard a little valley that ran down to the sea through an opening in the cliffs. He feared that an attempt might be made by the Allies to land troops here from the fleet and send them up the gully against his left flank.

In the enclosures below the heights along the river to left and right of Burliuk he placed a few sharpshooters. He massed his main force on the heights above. Several batteries were posted to sweep the narrow valley by which the road ascended them, and to the right of it more guns were mounted behind a couple of earthen breastworks on the slope of Kurgane Hill, on and around which he formed up his best infantry regiments in column. Behind the hill were some 3000 cavalry. The whole of his army was thus massed on a front of a little less than three miles right and left of the Sebastopol road. The heights towards the sea were unoccupied. His veteran lieutenants, Generals Kvetzinski and Kiriakoff commanded the right and left of his array.

In the early morning of 20 September the Allies advanced

in battle formation across the open plain in front of the heights. A glance at the plan of the battle will show that their array was much like that of a battle of the eighteenth century, except that instead of cavalry on both wings these were only on the left, the right being protected by the sea. The batteries were in the intervals between the infantry. The French marched in lines of columns. The British advanced in line. This was an innovation, though it was supposed to represent traditional practice. But as a matter of fact the tradition of Wellington's days was the much more practical method of marching in column and deploying into line at the point of action. The thin red lines that moved across the steppe at the Alma were an instance of tradition caricaturing itself. The advance was covered by a thin line of skirmishers, and the force that was to turn the Russian left—Bosquet's two brigades and Omar's Turks—was pushed out in front of the general alignment, near the sea.

The plan of attack, proposed by St. Arnaud and accepted by Raglan, was that the British and the three French divisions of Canrobert, Prince Napoleon and Forey should make a frontal attack on the Russian position. Meanwhile Bosquet, followed by Omar, and supported if need be with the guns of the fleet, would ascend the bold face of the heights near the sea and fall upon the left of the Russians by moving along the high ground. St. Arnaud answered for it that Bosquet's men would not only scale the heights, but also get up some guns by way of the narrow cart tracks which the telescope showed descending by gullies near the river mouth and above the village of Almatamak.

When this plan was adopted it was not known that the heights at this point would be left undefended, but it was considered that the Russians would not place any considerable force here, because while the ground was naturally strong, it would be a dangerous place for masses of men once the fleet opened fire. Supposing Bosquet gained the heights, his pressure on the Russian flank would assist the

frontal attack of the other French divisions, and as they reached the crest and cleared it this success would make it fairly easy for the British to drive in the Russian right.

But the "best laid schemes gang aft agley," and this scheme did not work out as it was intended, chiefly because St. Arnaud, once the battle began, drifted into a different line of action, that with better leadership on the Russian side might have had serious consequences. But on both sides there were so many blunders that the battle may be taken as a curious witness to the low ebb to which the art of command had fallen in the middle of the nineteenth century.

The first blunder was made when the main body of the Allied Army, the thin red lines of the British and the massive columns of the French, halted to give time for Bosquet's division to get well forward; the halting-place was chosen so that the troops were within range of the Russian guns on the height, while their own batteries on the lower ground could attempt no effective reply. There was some needless loss in the English lines. When it was seen that Bosquet's men were going up the heights towards the sea the general advance was resumed. We need note only the essential points of what followed. Kiriakoff moved his troops from the left of the Russian main position to stop Bosquet, and St. Arnaud gradually sent all his force, division after division, towards the seaward heights to support the flank movement. The first line of the British made its way across the Alma and began in some disorder to move up the Kurgane slopes and rushed the entrenchment known in narratives of the battle as the "Great Redoubt." It was really a battery, a breastwork with some guns behind it. At the same time the English right was moving to attack the gully by which the road ascends from Burliuk village.

On the Kurgane Hill during the first advance the Russians had attempted a counter-attack. They moved down in massive battalion columns, with a few men

extended in line on the flanks of each column to increase the front of fire. But even so each battalion had only a small number of its men able to use their muskets. The mass of the battalion could only do anything when the front crossed bayonets with the opposing force, and even then their work would be to bring the pressure of numbers and weight to bear on the enemy. From the thin red line in front, two deep, with every man able to use his weapon, there came a steady fire that first stopped the advance of the column and then sent it staggering back, for the red-coats were using the rifle at musket range, and a bullet often made more than one victim in the dense target at which it was fired. Column against line had failed often before in the days of the old musket. The new weapon made the failure more certain and more costly.

After the capture of the battery Prince Gortschakoff—Mentschikoff's second in command—and Kvetzinski, the local commanding officer, organized a second counter-attack of the Russian infantry, supported by the fire of two batteries from the summit of the hill. The Light Division were disordered by their success; they had lost heavily, and were in a very exposed position. The second line, Highlanders and Guards, were coming up to support them. It was then that the second Russian attack came down the slope once more in massed columns. This time they had not to face the same well-ordered fire, and in the confusion the earthwork was lost, and the Light Division retiring down the hill threw the nearest battalion of the Guards into some disorder. The situation was saved by the instinct of these thoroughly trained soldiers to rally round their leaders and think only of holding their ground at any cost. Bayonets were actually crossed on the right, but it was the fire of the British infantry tearing into the front and flank of the Russian masses that held them. And then came the strange incident that changed the whole situation.

Lord Raglan with his staff had ridden with the extreme

right of the British advance, pushing round to the west of the burning village of Burliuk, and getting in front of Adams's brigade which was advancing on that side. No fire came from the heights directly in front. Kiriakoff, who should have been taking care of this part of the position, had gone off, as we have seen, to deal ineffectively with the French flank movement. With a somewhat reckless disregard of possibilities, Raglan thought only of getting up the heights in front and seeing for himself how things looked from that elevated point of view. A bridle track up a long gully offered an easy way, and, disregarding the stray shots of some Russian stragglers, the party of officers reached the top of the gully and then rode up a knoll of ground that commanded a good view.

It was one of the strangest situations in the whole history of war. There were two battles in progress, divided by a couple of miles of open rolling downland. And in between them the British general and his officers had pushed their way. They found themselves unmolested and unnoticed in the very midst of the enemy's position. To the fight away towards the sea Raglan paid no attention. He looked eastward into the powder fog of the fight for the Kurgane Hill and the sloping ravine nearer his position. In the ravine Russian batteries were in action on both sides of the road, Russian battalions massed beside and behind them. Up the valley came the rifle and artillery fire of Evans's attack. Beyond it on the slopes of Kurgane dark grey columns were engaged with the red lines of the left attack. With sublime indifference to the dangers of his position, Raglan thought only of its advantage. Below the slope he had ascended Adams's infantry with some artillery was plodding slowly to the attack. Raglan sent to hurry them up, and ordered a couple of guns to be rushed up with all haste. As soon as they arrived they were turned on the Russian columns on the Kurgane slopes.

Never did two guns accomplish so much. Their effect



CRIMEAN BATTLES

1. THE ALMA. Sept. 20, 1854
2. INKERMAN. Nov. 5, 1854

B.H.A.

PAIDON LAND FLIGHT



Map of the region of the Balkans, showing the course of the Danube River and its tributaries. The map is oriented vertically on the page.



was partly the result of the little group of horsemen who were with them wearing not the red coat but the blue staff uniform. General Kvetsinski tells how while his infantry were engaged with the Light Division, reinforced by the Guards, artillery fire came from the heights beyond the road ravine, and looking across he saw that some guns escorted by blue-uniformed horsemen were in action there on the flank of the Russian centre. In his report he speaks of the guns as a "French battery." The blue uniforms of the staff helped the illusion. He could not imagine that this daring flank attack had nothing behind it. He felt sure it was the vanguard of the French advance that had driven back the Russian left, and was now pouring its fire into the heart of the position and menacing the line of retreat. His impression was shared by others, and there was another false impression among the Russian leaders. Kvetsinski says that he could see that in his front the British were coming on in increasing and superior numbers. What he did see was the second line coming up and carrying forward the first. All along the hillside through the eddying clouds of smoke he caught glimpses of unbroken lines advancing on a much wider front than those of his own array, the shakoed linesmen, the bearskins of the Guards, the bonnets of Colin Campbell's splendid Highland brigade. To men used to think of columns the wide front of the attack suggested masses moving in support of it. The Russians were not outnumbered, but they had the impression of it, and in battle men act on the impression of the moment. So on the Kurgane Hill, the raking fire of the guns, the blast of musketry that met the Russians in front and flank from the advancing line, the feeling of superior strength in their front and a dangerous flank attack coming in from an unexpected quarter, all helped to produce a backward movement up the hill. In the valley along the road it was the same. As gun after gun came into action on the heights to the left, the batteries in the ravine limbered up and withdrew, and Lacy Evans

drove his attack home—one brigade up the ravine, the other up the heights to Lord Raglan's position.

At the same time the French were bringing their guns into action at last away to the seaward, and brigade after brigade deployed on the heights. Kiriakoff drew his battalions back to the ridge known from an unfinished signal tower as the "Telegraph Hill." But he did not stop there. He saw masses of redcoats with guns in action between him and the centre and Russian batteries retiring along the Sebastopol road. Anxious for his line of retreat, he began to move off south-eastward to gain the road to Sebastopol.

Then everything was soon over. A wild rush of French infantry—Zouaves, chasseurs and linesmen—raced for the Telegraph tower, each regiment eager to plant the tricolour upon it. A handful of Russians who had remained near the tower were shot or bayoneted. Kiriakoff had unlimbered a couple of batteries, and tried with their fire to stop the rush. As the tricolour fluttered out from the tower he limbered up and continued his retirement. His march brought him on to the same line of retreat as the stream of battalions and batteries that came flowing back from the main position up out of the road ravine and down the rearward slopes of Kurgane Hill, on the crest of which the Highland bayonets were flashing. British guns were galloped out on the heights to hurl their fire upon the retreating masses. The Russian cavalry, idle till now, rode forward to cover the retreat with an interposing screen of horse and man. But no attempt was made to pursue. The firing ceased as the Russians plodded away towards Sebastopol, and the Allies were content with having stormed the position and opened the way for the advance against the great fortress.

The Russians had lost heavily, especially in the fight at point-blank range on the Kurgane Hill. One regiment, the famous Vladimirs, had lost 48 per cent of its strength—47 officers and 1260 men killed and wounded. In all the

loss was over 5000 men, including 5 generals. The British lost nearly 3000 men, the French, who had not been so closely engaged, about 1000. The battle, fought out as we have seen in a somewhat haphazard way, was a distinct success. But it is worth noting that the attack was planned on lines that could only give limited results. The sound doctrine of war is that the object of fighting a battle is not merely to occupy a given position, but to destroy the enemy's fighting force. In this case the attack in front by the British and on the left or seaward flank of the enemy by the French could at best effect only what was actually accomplished, namely, the driving of the enemy back upon his natural line of retreat towards Sebastopol. A bolder policy would have been to hold the Russians by a frontal attack and turn their landward flank, driving them if possible towards the seaward cliffs, where they would be cut off from their retreat on Sebastopol, and further come under the fire of the fleet. A success on these lines would have secured the immediate fall of the fortress.

Balaclava—a name made famous for ever by the "Charge of the Six Hundred"—is claimed by the Russians as well as by the French and English as a victory. The Allies had begun the attack on the south side of Sebastopol without being able to invest the place. Mentschikoff, the Russian commander-in-chief, had been largely reinforced, and besides strengthening the garrison of the fortress was able to establish a corps of about 30,000 men under General Liprandi in the Tchernaya valley east of the Allied positions. The British base of supply was the little port of Balaclava, from which two roads ran up to the camps and lines on the plateau before Sebastopol. To protect these roads earthworks, armed with guns and garrisoned by Omar's Turks, had been dug on the ridges north of the port. Nearer Balaclava the 93rd Highlanders were posted. The British cavalry under Lord Lucan, about 1600 strong (Scarlett's Heavy Brigade 900, and Cardigan's Light Brigade 700),

were camped in the valley between these outlying ridges and the plateau.

Liprandi attacked at dawn on 25 October. There were four episodes in the affair. The brunt of the first advance fell on the Turkish works. At one of the redoubts a good stand was made, but the little garrison was fairly mobbed by masses of infantry. The other redoubts were abandoned by their garrisons in a kind of panic. This was the first phase—collapse of a weakly held line of outpost entrenchments before the advance of over 25,000 infantry, some thousands of horse and some seventy guns. It looked as if nothing could stop the enemy's advance from pouring into Balaclava, seizing the magazines of supply on the verge of the town and rolling up the right of the main attack on Sebastopol. In front of Balaclava there was a single battalion of Highlanders, the 93rd. In the valley behind the captured ridge only a cavalry force mustering something like one-third of the Russian mounted attack. There was not a single field battery on the English side. Raglan, who had ridden out towards the firing, saw the danger, and sent for two of his divisions of infantry, but they arrived only when the crisis was over. Liprandi tried to follow up his advantage with his masses of cavalry, and what followed is of interest as an example of cavalry action. The story of the charges that followed has been often told in such detail that here there is no need to relate again the many instances of splendid individual heroism that made Balaclava a world-famous name. We are concerned only with our analysis of the methods of battle leading, the factors by which "fields are won" or lost, the evolution of the methods of to-day.

The Russian cavalry moved forward over the low ridge that had just been captured and divided into two columns. The right column came directly on into the wide valley between the ridge and the Inkerman plateau, where Lucan had formed up his 1500 sabres. The left column moved on Balaclava itself, covered by the fire of a few Russian guns

from the ridge. The target of the guns was first the flying Turks, then the Highlanders whom Colin Campbell had formed in line behind the rounded crest of a low swell of the steppe to bar the cavalry advance. "There must be no retreating," he said to his men. "We must die here." As the Russian charge came thundering on, Campbell waited with his men in line instead of forming the traditional square. There were instances before this of infantry in line meeting and repulsing a cavalry charge, generally in cases where there was not time to form square. But it was an accepted maxim that the square was the normal infantry formation against a mounted attack. Campbell's exploit at Balaclava was epoch-making, because its complete success happened to be achieved under the eyes of a journalist who made it famous by a striking description that fixed attention upon it with a happy phrase that has become historic. Russell, of *The Times*, told how he watched the mass of cavalry rolling towards the "thin red line": how the Highlanders waited impassively until the horsemen were almost upon them, and it seemed that they would inevitably be swept away. Then down came the double row of rifles to the present, and a volley crashed out with such deadly and destructive effect that the Russians stopped, turned and rode away, leaving the ground strewn with horses and men. From that victorious volley of the "thin red line" there began the tendency to meet cavalry charges with the heavier and wider front of fire given by the line formation, a tendency accentuated before long by the increased power of the infantry weapon.

Of course it must be allowed that the cavalry leading of the Russians was as bad as it could be. They moved slowly, directly upon the Highland front. With better material in the ranks and a better leader the front attack would have been combined with a dash round the flank of the "thin red line." But there was no dash, and very little leadership among the Czar's cavaliers.

The difference between good and bad cavalry methods

was shown in a striking way a few minutes later. The right column of the Russian horse had reached the open ground of the valley, squadron behind squadron in dense array. There was a halt, apparently for the purpose of dressing and closing up the ranks after the movement over the broken ridges across which the column had advanced. Then it was that Lucan ordered General Scarlett to charge with the heavy cavalry brigade. There were five regiments—Scots Greys, Inniskillings, Royal Dragoons and 4th and 5th Dragoon Guards, but altogether they mustered about 700 sabres, little more than the strength of a single Continental cavalry regiment. Without any hesitation, Scarlett led them against the 3000 Russians. In two successive waves of horsemen three regiments were flung at the head of the hostile column, while the two others (4th Dragoon Guards and Royals) swept round against the right flank. With utter disregard of the first elements of cavalry action, the Russians remained halted, with the result that the impact of the smaller force tore through and broke up the grey column. It became a disordered, broken mass that retired in confusion through a gap in the ridge it had just passed, moving as it did so across the front of Cardigan's Light Brigade. To the surprise of those who watched from the heights, Cardigan never moved. A charge would have completed the destruction of the Russian cavalry. "I had orders to act on the defensive," was Cardigan's excuse. Lucan denied this, and said afterwards that he had told the brigadier to "attack anything that came in reach of him." But even without such instructions Cardigan should have realized that defence does not mean sitting still and looking on, especially for a cavalry leader.

Then came another glaring blunder, redeemed only by the splendid gallantry of all concerned. The Light Brigade (4th, 8th, 11th and 13th Hussars and 17th Lancers) was halted on ground from which it looked down the long valley between the near ridge which the Turks had lost (the Causeway Heights) and a parallel ridge known as the

Fediukine Heights. At the end of the valley a Russian battery was in line with masses of troops behind it. Along both lines of heights there were Russian guns and infantry, and bodies of cavalry rallied from their late defeat. Artillerymen were bringing teams of horses along the crest of the Causeway Heights, evidently with a view to getting away the captured Turkish guns. It was to prevent the enemy securing these trophies that Lord Raglan sent a galloper to Lucan with a written order to the effect that "the cavalry was to advance rapidly to the front and prevent the enemy carrying off the guns." Both Lucan and Cardigan strangely misunderstood the order, and instead of a dash for the Causeway Heights to prevent the removal of the guns, the Light Brigade was sent down the "valley of death" to attack the guns in battery at the end of it. All the world knows how they rode through a cross fire of bullet and cannon shot from right and left and from the front, charged through the battery sabring the gunners, and then, helpless in presence of the masses arrayed behind the guns, rode back in broken array, dashing through two masses of hostile cavalry that rode down from the ridges to intercept them. They were reduced to a mere shattered wreck, when a third mass of cavalry struck in across their line of retreat, and they would have been utterly destroyed but for the gallant charge made by the French General Morris, who had come up at the head of a splendid regiment of the veterans of Algerian war—the Chasseurs d'Afrique.

With this destruction of the Light Brigade the battle practically ended. British and French infantry and artillery were now coming into line, and the Russians drew off, taking the guns they had captured with them. All the morning the church bells of Sebastopol rang out rejoicing peals for Liprandi's victory. The Allies claimed a victory also, for after the first rush the enemy had gained no ground, and had suspended his advance after the charge of Cardigan's "Six Hundred."

The day's lessons were the striking example of the power of infantry in line to defend itself against cavalry, and the helplessness of cavalry at the halt against the attack of the same arm at the charge. There was another lesson in the surprise with which the fight had opened. An outpost line that does not patrol to the front in the grey of the morning may find itself exposed to be rushed by superior forces that have approached under cover of darkness. This was an old maxim of war. But in the Crimea it appears to have been forgotten. There was another and a more dangerous surprise a few days later, on 5 November—the day of Inkerman—when the situation was saved only by the dogged courage, the “daring obstinacy,” of officers and men.

These Crimean battles are indeed a record of many blunders. But it has been truly said that there are always blunders in war on both sides, and the victor is he who makes the fewest.

At Inkerman the Russians accumulated blunder upon blunder. It was the most serious attempt they made to raise the siege, and the choice of the point of attack and the general idea that directed it were sound enough. The position of the besiegers was facing the south front of the fortress along the rocky upland plateau that extends from the Tchernaya valley to the sea. The Allies had to hold the eastern face of the plateau, the line of heights looking down on the Tchernaya, in order to protect the flank of their lines and their communications with the sea at Balaclava from the Russian field army under Liprandi. This defence was entrusted to Bosquet's French division along the southern end of the heights, and northward where they looked down on Sebastopol harbour and the mouth of the Tchernaya they were held by the 2nd British division. At the beginning of November the division, temporarily under the command of one of the brigadiers, General Pennefather, was only about 3000 strong. It had to guard a front of about a mile and a half, running across two of the



rugged spurs of the plateau (known as the Inkerman and Victoria Ridges), divided from each other by the ravine that runs down to Careenage Creek on the harbour. Behind them were the camps of the Light Division and the Guards Brigade, but even the arrival of these reinforcements would give at most about 7500 men in all for the defence of the position. A general of to-day would have entrenched the whole of the front at any cost of effort and labour. But in those Crimean days old lessons had been forgotten, and the new period when the power of modern rifle and artillery fire brought field works again into fashion had not yet come. The only artificial defence of the ground was a breastwork—known as the Barrier—across the Balaclava road. On the extreme right, on the verge of the slopes towards the Tchernaya, there was an unfinished work, the Sandbag Battery, but it looked towards the low ground, and though it was fought for and won and lost more than once during the battle, it had no tactical value.

The Russians had been continually reinforced, and Mentschikoff in these first days of November thought he was strong enough to break up the siege by a combined attack of the garrison and the field army, and he chose for his first objective the weak position of the British on the north-east extremity of the plateau. So far, he had a good idea. But he spoiled his plan in working out the details, and it was further spoiled in the execution.

He took personal command of Liprandi's corps—some 25,000 men—in the upper valley of the Tchernaya, facing Bosquet. On the right bank of the same river near the inner end of the harbour he had General Pavloff's division (20,000 more). At the east end of Sebastopol he concentrated Soimonoff's division, another 20,000. The orders were that in the darkness of the night between Saturday and Sunday (4 and 5 November) Soimonoff was to move out of Sebastopol, follow the Careenage ravine and attack up the slopes of the Victoria Ridge inside the extreme flank of the besieger's works at the Lancaster Battery. Pavloff

was to cross the bridge near the mouth of the Tchernaya, send a flank column up the Balaclava road by the Quarry ravine and march his main body along the road by the harbour, and then to the left up the Inkerman Ridge. Thus 40,000 men in three columns would attack in the morning twilight the position held by the 3000 bayonets of the Light Division. He himself with Liprandi's corps would make a show of attacking Bosquet on the heights to the southward to prevent him from reinforcing his Allies. As soon as it was seen that the attack on the Inkerman Ridge had succeeded this false attack would be turned into a reality. And then as the advance of over 60,000 rolled up the Allied right, 30,000 more would make a sortie from the south front of the fortress of Sebastopol against the Allied trenches. It was for long after this a favourite device of weak commanders to draw up such schemes of one corps waiting to attack until another had succeeded, instead of exerting the full available force from the outset.

The state of the weather and the bad outpost system in use at the time favoured the Russians. It was a night of dense fog and cold mist, and as the grey columns plodded along the roads and ravines by the harbour there were no patrols sent forward by the British to guard the dangerous ground in front of the outposts. As the dawn struggled with the fog the advanced pickets of the Light Division were suddenly driven in, and at the same time a heavy bombardment of the position was begun by a line of guns massed upon "Shell Hill" during the night, and at several points the heads of advancing columns of Russians showed through the fog.

But already the Russians had blundered badly. In the darkness Soimonoff had missed his way, and instead of coming up out of the Careenage ravine on to the Victoria Ridge, had borne too much to his left and led his huge column up the Inkerman Ridge. Thus some 40,000 men were being jammed together in the fog on a front that would have been rather narrow for one-fourth of the

number. The result was that only the leading battalions of the Russian masses could come into action. Tens of thousands halted in the semi-darkness, listened to the roar of the fight in front and suffered loss from the long ranging fire of the defence—a loss that was utterly useless.

Line was to meet column again—in this case a thin red line with many gaps, a line of 3000 British and infantry of the long-service type under a commander, Pennefather, who, if he had no very wide knowledge of the military science of the day, had just what was wanted for the crisis. It was said of this gallant Irishman that he had the regular Donnybrook spirit—"When you see a head, hit it," might have been his motto; and with this he had the persuasion that it was unthinkable that British infantry should give way before any number of mere foreigners. So there was no thought of falling back on the supports. Officers and men splendidly seconded him. They knew they must hold on at all costs till help came, and they held on in no passive spirit of expectant defence, but at more than one point moved forward into the fog to have a closer shot at the enemy. And here, as at the Alma, the line with the rifle proved itself a match for the column with its narrow front of fire and the old muskets. The boldness of the defence in the doubtful light made the Russians imagine they had to deal with large numbers of opponents. Here and there they came on through the storm of bullets and got to close quarters. Bayonets were crossed, and there were desperate hand-to-hand combats with varying results. But on the whole the red lines held their own, and then the Light Division came up on the left, a welcome reinforcement. The first rush of the attack was pushed back and the Russians paused to reorganize the confusion on the crowded ridge into something like order, and for a while there was a partial lull, during which the Guards arrived.

Away to the southward Mentschikoff had begun his feint of attacking Bosquet, but so feebly that the French

general before long decided that the Russian Prince did not mean business. He sent word to Raglan that he would send him some help, but the British general at first declined it. He had come up, and as the mist cleared taken a good look at the fight, and made up his mind that his weak divisions could hold the disorderly crowds that were huddled in their front. He brought his artillery into action on their dense masses with deadly effect, using two rifled guns from the Lancaster battery, the first time the rifled gun—still in the experimental stage—was used on the battlefield. They were siege guns diverted to a new purpose. The day of the rifled field artillery was not yet.

With the repulse of the first attack the great danger was over, but there was still some hard fighting before the Russians at last withdrew. In the final stage of the battle the French came most helpfully into action, but the record of losses shows that the main brunt of the fighting had fallen upon the British. The Russians lost nearly 9000 men, and the losses of the Allies were :

	Killed.	Wounded.	Total.
British .....	597 ..	1851 ..	2448
French .....	143 ..	786 ..	929
	<hr/>	<hr/>	<hr/>
Totals .....	740 ..	2637 ..	3377

The loss was heavy in proportion to the numbers engaged. Only about 14,000 British and 4000 French had come into action. From first to last it had been a fight against odds, and once more proof had been given of the falsity of Napoleon's saying that "Providence is always on the side of the big battalions"—an utterance belied by some of his own exploits.

## CHAPTER XII

### MODERN WEAPONS AND "THE NATION IN ARMS" (1859-1870)

**T**HE battles of the Crimean War had been fought—as we have seen—on lines that differed very little from those of the Napoleonic wars. If anything, there was a retrogression, for on neither the side of the Allies nor on that of the Russians was there any example of the leadership that secures the well-combined action of all arms, and the direction of this action so as to obtain not a mere temporary advantage, but the decisive result of destroying the fighting power of the opposing forces.

There was, however, in one point a presage of the great changes that were imminent in armament and tactics. Rifled small arms instead of being the weapons of small bodies of specially trained troops were becoming the ordinary armament of the infantry soldier. The Russians had almost entirely an armament of old-fashioned muskets. The French and English infantry were at the outset of the war chiefly armed with the rifle. The change of armament told strongly in favour of the line tactics of the British infantry, and the repeated success of the thin red line against the Russian infantry columns afforded proof of the increasing importance of fire effect as opposed to shock tactics. But the power of the rifle was not yet realized. Fire was opened at short ranges, a tradition from the days of the musket, and the new weapon told chiefly in the direction of greater accuracy and penetration, both of them deadly factors against men coming on in serried masses.

There were a few rifled siege guns in the English works before Sebastopol. It was natural that with the as yet imperfect manufacturing machinery available rifling should at first be applied to large-bore cannon, naval guns and guns of position. It was in the French army that the rifled field piece was first introduced. When an invention is in the experimental stage it is easier to have it adopted under a Government that is directed by a single autocratic will than under a Parliamentary system. And the French Emperor Napoleon III was of an enterprising disposition and had a liking for novelties. It was to his initiative that the introduction of armour-clad warships into the world's navies was due, and in the period of about three years between the Crimean War and the Italian War of 1859 he rearmed most of the French field batteries with rifled guns.

From the point of view of the development of armaments and tactics the interesting feature of this campaign of 1859 in Lombardy was the work of the artillery. On both sides shell fire—till now chiefly used in siege warfare—was the main reliance of the gunners. The old cannon ball had ceased to be the ordinary projectile of the field piece. But the Austrians had still the old smooth bore guns, short in range and inaccurate in aim. The French batteries were mostly armed with rifled guns firing an elongated projectile, with a bursting charge and percussion fuse that exploded the shell on impact. Following his famous uncle's traditions, Napoleon III used massed batteries to prepare the way for his infantry attacks, but the power of the new weapon was chiefly shown in the artillery duels between French and Austrian batteries. On some occasions the French gunners were able to put the opposing guns out of action by engaging them at a range at which the smooth-bore cannon was helpless to inflict any loss. Under such conditions the French artillerymen could shoot as if they were at target practice. But in war as in peace it is difficult to break away from old

habits, and the French artillery always came into action at shorter ranges than the power of the new gun justified. As in the old days, the batteries were continually placed in line with the infantry, and the advantage of superior range was thrown away.

The ten years that followed the Italian War witnessed the greatest changes of armament and battle methods that had been seen since the invention of gunpowder began to make the tactics of feudal warfare obsolete. It was a time of a wonderful development of industrial activity and inventive ingenuity, especially in the application of machinery to manufactures. Rifled gun barrels, breech-loaders, revolving pistols, explosive shells, had all been made by ingenious armourers as early as the sixteenth century. But it was not until the arms factory replaced the armourer's forge and bench, and machine tools came into general use, that it was possible to turn out these warlike appliances in large numbers, to a standard pattern, with such efficient and uniform workmanship that all were equally reliable and at such a price that they could be ordered by the hundred thousand.

And these years of highly developed scientific industry were also years of war. Leaving out of account minor colonial wars and civil conflicts in various parts of the world, the five years from 1861 to 1866 saw two wars in Europe and a prolonged struggle between the northern and southern states of the great American Republic. This war in the United States was largely carried on by improvised armies, levied for the occasion and trained in the hard school of actual service in the field. During the four years of fighting on land and sea with improvised armies and navies experiments of every kind were made, and practical experience unfettered by the traditions of a regular war administration led to the introduction of some distinctly new features in armaments and in attack and defence. The importance of some of these was not at first recognized by the soldiers of the European armies.

This was partly the result of lack of complete information as to the actual details of battles and sieges on the other side of the Atlantic. The Intelligence Departments of the European armies were then in a very rudimentary state, and there was not at the time the present system of carefully following the course of every war in order to glean practical information from its events. Thus, for instance, it was years after the end of the War of Secession that any data as to the use of machine guns in battle in the later stages of the conflict became available for students of tactics in Europe. And it was not until after the Franco-Prussian War that it was realized that American soldiers had anticipated the practice of making the skirmishing line not a mere screen for the infantry attack, but the first fighting line, the "firing line" of the attack itself.

Nor was it till some years after the last shots had been fired in America that Europe adopted the system of rapidly entrenching the fighting line, not only in the defence but also in the attack. Everyone had heard of the aptness shown by both the Federal and Confederate infantry for improvising the defences of a position with trenches and breastworks of felled trees. But less was heard of the practice that grew up in the later years of the war of hastily providing some shelter from fire during the advance of an attacking line by the men lying down or kneeling and digging themselves into the earth and throwing up a low bank in front of them, working with entrenching tools, if these were available, and if not, with knives, bayonets, mess tins, in a word, with anything that could be made to serve the purpose. On some of the American battlefields every stage of the advance was marked by the ridge and furrow of these improvised entrenchments—the "shelter trench" that the soldiers of every army in the world are now regularly taught to excavate.

Again, it was not at first realized that the improvised cavalry of the opposing armies in the War of Secession



were to a great extent mounted infantry. They were trained for fire tactics rather than the shock of the charge ; relied on rifle or revolver rather than on sabre or lance ; and in action frequently used their mounts only to bring them to the point where most of the riders could be used as a firing line on foot. It was only years later that European soldiers began to realize the value of mounted-infantry methods.

The new evolution in battle methods and in the whole system of forming and training regular armies was the outcome in Europe of the victories of the Prussian army in 1866 and 1870-1. History was repeating itself, for more than 150 years earlier the victories of Frederick the Great had led to the Prussian drill-book being adopted all over Europe.

After the victories of Napoleon III in northern Italy in 1859, the French army was supposed to be the best in Europe. The first doubts on the subject arose after the swift success of the Prussian armies against Austria seven years later. But even then many, who were accepted as authoritative experts on military questions, still held the opinion that France was the leading power on the Continent, and that the Prussian successes were due to the temporary advantage of superior armament. The Prussian military system was not understood, and it was considered that an army like that of Prussia, largely composed of men called up for service on the eve of war, could not meet on equal terms an army of professional long-service soldiers.

There had been a short campaign in the first months of 1864, in which an allied army of Austrians and Prussians had forced Denmark to abandon to the German Confederation the Duchies of Sleswig and Holstein. The Danes with their little army made a prolonged defence of the fortified position of Düppel in the hope that France or England or both would intervene, but no help came, and the inevitable defeat ended the hopeless defence.

The whole war was looked upon as a matter interesting to politicians rather than soldiers. There had been no great battles in the open—only a dreary siege, and so little note was taken of the tactical aspects of the conflict that few realized that the Prussian contingent was armed with a new breech-loading rifle—a weapon, by the way, condemned by many soldiers of conservative views on the ground that it would lead the soldier to fire away all his ammunition in haste and leave him defenceless when the real crisis of the fight arrived.<sup>1</sup>

The Prussian army had adopted a breech-loading rifle, the famous "needle-gun," in 1855, at a time when most of the other armies were merely substituting some type of muzzle-loading rifle for the old smooth-bore musket. This made the Prussian infantry the most efficiently armed in the world. But its armament was not the most important feature of the army that was soon to reveal its real fighting power in more serious campaigns. In its method of recruiting, organization and training the Prussian army essentially differed from every other.

The Prussian system dates from the reorganization of the army after the disaster of Jena in 1806. Napoleon's victory and Murat's relentless pursuit had broken up and captured every Prussian soldier except a single corps that took refuge in Königsberg. The treaty of peace that followed was designed to make Prussia a mere tributary of the French Empire. By one of its provisions King Frederick William was bound to limit his army to 42,000 men. It was this restriction—strange to say—that led to the development of a new army of formidable strength organized on a new system. Scharnhorst and Gneisenau,

<sup>1</sup> Compared with later rifles the needle gun was a very inferior weapon. Its effective range was only about six hundred yards. The cartridge was of paper. The cap that fired it was fixed on the base of the bullet, and fired by a long needle driven by the lock-action through the length of the cartridge. The paper-cartridge débris rapidly fouled the barrel, and powder gas often escaped through the breech-action and gradually damaged it seriously.

who reorganized the Prussian forces, decided to make the small standing army a training school for the fighting forces of the nation. Instead of, as before Jena, enlisting men for a long term of service with the colours, the soldiers were henceforth to be kept in the ranks only long enough for them thoroughly to learn their business. They would then be sent back to their farms and workshops as reservists, liable to be recalled to the regiments on an emergency. The standing army was in time of peace a school of arms and discipline. When war came it was the *cadre*, the framework for the field army. Companies and squadrons would be expanded to receive their proportion of reservists, and mere skeleton formations would develop into second-line units for garrison and line of communication duties. The plan worked out so well that when—seven years after Jena—the great national uprising of Germany came in 1813 the Prussian regular army rapidly expanded from 40,000 to over 100,000 men. During the general peace that followed on Waterloo, the system that worked so well was further elaborated. The reservists, after having been for a number of years on the reserve list, and called up for occasional brief periods of training, were used to form the elements of a second-line army, the Landwehr (“Guard of the country”), primarily, but not exclusively, for Home Defence. A further source of efficiency in the war and a notable help to the rapid mobilization of the field armies was the system of localization. A regiment was always posted in the same district in time of peace. From the neighbourhood it drew its recruits. Its reservists lived near it. A company or a squadron was thus formed of neighbours who added to this tie the comradeship of the soldier. Only the Guards were recruited from the whole of Prussia by selection from the various local army corps.

Thus in the middle of the nineteenth century, while all the other states of the Continent of Europe had long-service armies, with small reserves, the recruiting being effected by conscription on a system that allowed wealthy

men to purchase substitutes who served for them, Prussia had not a merely professional but a national army. Every man was liable to serve on coming of age, though in actual fact the full number available was not called up, and the army in barracks was only the nucleus of the much larger army that was formed by calling out the reserves.

The whole was directed by the General Staff at Berlin, at the head of which was a great master of war, General Helmuth von Moltke. The duty of the staff was not merely to direct the recruiting and training of the army, but also to collect information as to foreign armies and possible scenes of future campaigns, to study and elaborate plans for the mobilization and the campaign against any probable adversary, and to provide a tradition of war-leading for the higher commanders, and exercise them in manœuvres and staff rides. Von Moltke's orders and notes for the exercises of the years, during which he was at the head of the staff, show that he drew up and tested to a certain extent in peace manœuvres projects for wars against France, Austria, and Russia.

Military experts, especially in France, spoke of the Prussian army as a mere militia that would take the field with its regular soldiers lost in a crowd of half-trained reservists. The brief campaign against Denmark in 1864 did not destroy the illusion. There was no general mobilization, and only a small force was employed. The test came in 1866.

By this time King William of Prussia had largely rearmed the artillery with a new weapon, the Krupp rifled breech-loading field piece. The breech-loading gun not only gave a more rapid fire, but also had the advantage that the gunners serving it were less exposed. They were largely sheltered by the piece itself and its carriage. The weakest point in the Prussian army of 1866 was the cavalry. They had not yet learned to act as the moving screen of the advance as they did so effectively in the first stage of the war with France in 1870.

In war the qualities of the leader are all important—the man often counts for more than many men. The nominal commander in the two great wars of 1866 and 1870 was the Prussian King. The real commander was the chief of the staff, Von Moltke. He had under him corps commanders who thoroughly understood his ideas. The Prussian conception of war was that taught by Clausewitz, a soldier of the War of Liberation. Its central idea was the employment of every available force in a combined effort, not merely to occupy territory or seize this or that position, but to encounter and destroy the main fighting force of the enemy. So when in 1866 Prussia, with Italy for her ally, found herself opposed to Austria and most of the minor states of Germany, Von Moltke's leading idea was to bring about a decisive battle with the main Austrian army.

Prussia with a few of the minor states of northern Germany on her side could put into the field 350,000 men; Austria would muster 450,000, including the Saxon army, which would at once join forces with her. The other German powers would muster some 120,000. The odds were heavily against Prussia, even allowing for the fact that the Italian alliance would force Austria to keep 150,000 men in northern Italy. But everything would turn upon the fate of the main Austrian army, 300,000 strong (including the Saxon corps). Prussia could match another 300,000 against them, and this would leave only 50,000 to deal with the Hanoverians and south Germans. Though they could altogether place 120,000 men in the field, they were thinking only of a piecemeal defence of their own territories. So the 50,000 men under Von Falkenstein were able to deal with them in detail. But in any case, whatever was the result of these minor operations, the defeat of Austria would decide the whole conflict.

Von Moltke trusted to the more perfect army system of Prussia to enable him to take the initiative after a

rapid mobilization before the Austrians were able to meet him in force. Benedek, the commander-in-chief of the Austrian army of the north, was assembling it in Moravia. In Bohemia, which juts out like a mountain-walled bastion from the Austrian territory, there was a single corps which was joined by the Saxons retiring before the Prussian advance. To facilitate movements by railway and the working of supplies during the concentration, the Prussians were assembled in three armies along the Saxon frontier, the 1st Army in the centre, 120,000, under Prince Frederick Charles, about Górlitz, and the "Army of the Elbe," 50,000, under General Herwarth von Bittenfeld, on his right. These two armies menaced Saxony and Bohemia, and covered the direct road to Berlin. Another army—the "2nd Army," 130,000 strong, under the Crown Prince of Prussia—was in Silesia watching Moravia. The total force was thus 300,000 men.

"March separately, fight united" is the Prussian maxim. When the word was given to advance, and before Benedek was yet ready to move in any force, the 1st and Elbe Armies entered Saxony and forced their way through the mountains into Bohemia, where they joined hands, facing eastwards against Benedek, who was now coming up from Moravia. At the same time the Crown Prince with the 2nd Army advanced across the north-east frontier of Bohemia on a converging line that would bring him into touch with the main advance. There were minor actions fought with Austrian detachments during these movements, but these were only incidents that did not affect the fate of the campaign. They revealed, however, the terrible power of even the clumsy breech-loader carried by the Prussians against the Austrian muzzle-loading rifle.

I have had to outline the general strategy of the campaign, in order to make the decisive battle intelligible and to bring out the fact that in modern war this decisive battle is fought on lines that are the direct outcome of the preceding movements, and is not, like Solferino, for instance,

the result of two armies meeting front to front in something like casual collision. In this Bohemian campaign Von Moltke looked forward to bringing about a combined front and flank attack upon the Austrian army. With the huge masses now brought into the field a flank movement is not what it was in the days of Frederick the Great, when in sight of the commander the line advanced with one flank thrown forward to crush the opposing wing of the enemy. A flank movement of a detached force greater than the whole of one of Frederick's armies would be a march of many hours, perhaps of days, and it would therefore be a gain to have the flanking force already in position for its attack before the day of battle. This was why the Crown Prince's army moved on a line of its own, chosen so that he could operate against Benedek's left, joining hands with the other armies not before the final engagement but on the actual battlefield, as Blücher had joined Wellington at Waterloo.

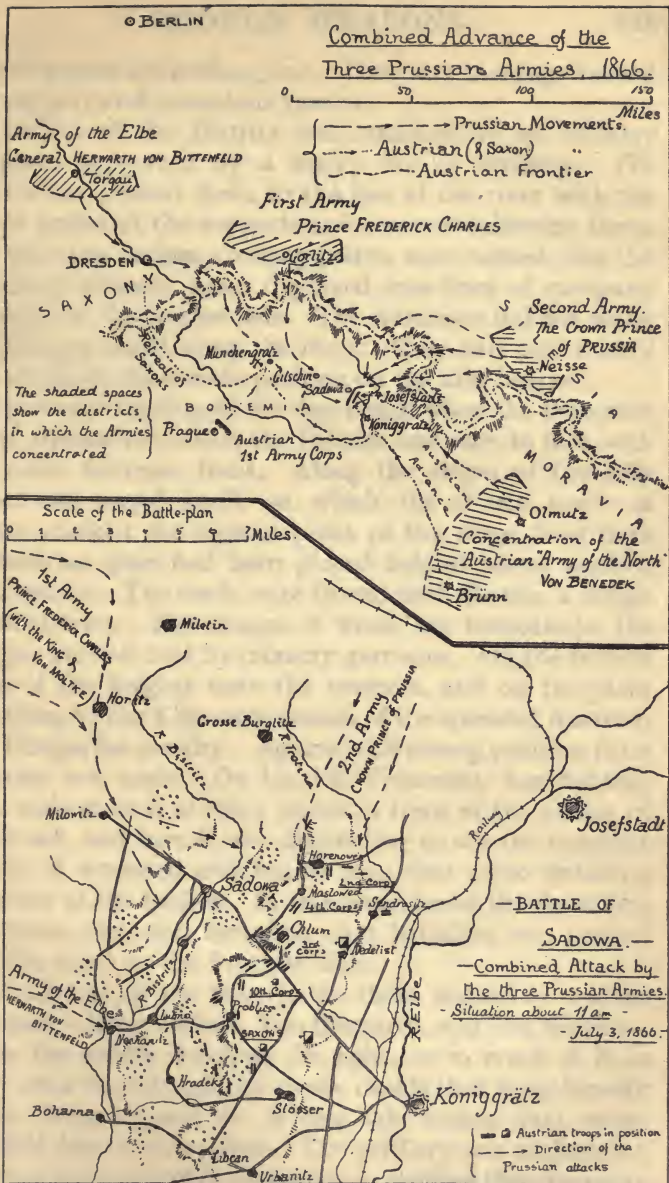
Benedek, with the Austrians and Saxons of the Northern Army, entered Bohemia from Moravia, crossed the upper Elbe between the fortresses of Königgratz and Josefstadt, and took up a defensive position on a line of hills facing the crossings of the river Bistritz. His splendid cavalry was kept together for action on the battlefield instead of being engaged in sweeping the neighbouring country. The result was that he was so badly informed as to believe that the Crown Prince's army had joined the two others, and that he had the whole Prussian force in his front.

The great battle of 3 July, 1866—the greatest in point of numbers in the whole of the nineteenth century except the battle of Leipzig—is known to the Austrians as the Battle of Königgratz, and in Germany as the Battle of Sadowa. On the evening before, 170,000 Prussians were away to the west of the marshy course of the Bistritz some miles from the Austrian front, and away to the north of the Austrian left were the Crown Prince's 130,000 men. Benedek's army lay along the crest

and the western slope of the hills that divide the Bistritz from the Elbe, with the artillery mostly placed in entrenched lines, and with advanced detachments holding the wood-built villages through which lay the best crossings over the Bistritz. The country was not unlike some parts of the south of England, rolling downs sloping to the river, with many villages, farms, and country houses, and clumps and wide stretches of woodlands. The day broke cloudy and wet after a night of rain, and through the driving showers, over marshy fields and roads deep in mud, the main Prussian army under the personal command of the King moved forward to the line of the Bistritz. The fighting began with an artillery duel, during which Sadowa and some of the other villages along the course of the stream were set on fire by the bursting shells. The advance across the river was precipitated by Von Fransecky's corps on the Prussian left pushing forward more rapidly than Von Moltke had intended, and becoming closely engaged with the enemy's right. It had to be supported, so the infantry advanced all along the line.

The Prussian fighting formation in 1866 (and in the first stage of the war of 1870) was one that combined some of the advantages of both line and column. The infantry battalion was organized in four strong companies. Each company was again divided into three "zugs" or sections, each of sixty to eighty rifles. The fighting formation was line of company columns, i.e. each company formed a little column, the zugs in line two deep being placed beside each other, either in close touch or with a certain space between them. Thus they might be placed so that on the order to form line there would be room for the second and third zug of each company to come up into the alignment, or they might be drawn together so as to form a solid mass to drive an attack home. In moving over broken ground the companies, each in its independent column, provided a flexible formation. The battalions sent forward first to the attack usually threw out the first zug of each company





CAMPAIGN OF 1866 AND BATTLE OF SADOWA



MAP OF THE STATE OF TEXAS

in a dispersed skirmishing line. The other two zugs formed the support and immediate reserve.

The line of the Bistritz was attacked by an infantry advance, supported by a heavy fire of artillery. The skirmishers pushed down to the line of the river with the closed bodies of the supports and reserves following them, and then the various crossing points were rushed, and the attacking infantry again deployed into lines of company columns on the further side. The Austrians did not make a prolonged stand along the river. They had held it only as a screen to their main position on the hills beyond.

The severe fighting of the day began when the Prussians found themselves across the Bistritz and face to face with the main Austrian front. Along the slopes of the hills below the round knoll, on which the church tower of Chlum marked the highest point of the ridge, long lines of Austrian guns had been placed behind heavy earthen breastworks. The roads were barred with abattis, a tangle of felled trees. The clumps of wood, the farmsteads, the villages were all held by infantry garrisons. On the reverse slope of the heights were the reserves, and on the plain stretching to the Elbe were masses of the splendid Austrian and Hungarian cavalry. Against this strong position little progress was made. On the left Fransecky was fighting for a wide stretch of thick woods in front of the village of Maslowed, and here it was disquieting to see the constant stream of wounded and beaten men that came dribbling back out of the bushes. In the dense forest the Austrians held their own, and battalion after battalion was pushed into the wood on the Prussian side.

On a knoll by the Bistritz the three makers of modern Germany—King William, Von Bismarck, and Von Moltke—sat in the saddle watching the fight, or so much of it as they could see through the smoke clouds that hung heavily in the damp air and the driving rain storms that swept the field from time to time. The artillery was exchanging fire over the heads of the infantry, or shelling the advancing

troops on the one side, the entrenched positions on the other. Along the front there was a series of detached fights between the hollow of the Bistritz and the slopes beyond it. From the Prussian right Herwarth von Bittenfeld reported that he was only able to bring the Elbe army slowly into action, as he had to pass guns and men over a single bridge across the little river that barred his way. As he got his men across they were flung against the Saxons on the Austrian left.

By noon the 1st Army, the Prussian central attack, had mostly got across the Bistritz, and was in action along a wide front north and south of Sadowa, but still fighting a waiting battle in the hope of the pressure of the Crown Prince's advance making itself felt on the enemy's right. On the left of the Austrian line the Elbe army was now developing a fierce attack, but all along the front the Austrians made a formidable show of defensive strength. Rows of guns, half hidden in the entrenchments along the slopes, kept up a steady fire on the Prussian positions, and seemed as yet unaffected by the return fire of the batteries of Krupps that were in action against them. The Prussian staff were growing anxious. There was as yet no sign of the Crown Prince's intervention, and the danger was that Benedek might assume the offensive, and if the 2nd Army delayed much longer he would hurl a superior force against the Prussian lines on the left bank of the Bistritz. As a matter of fact, the Austrian general was actually preparing for this counter-attack.

King William became impatient and proposed to risk a general advance in force against the Austrian positions in front of Chlum. Moltke looked at the entrenched slopes giving tier above tier of fire and the long line of batteries of the Austrian centre, and told the King the attack would prove a costly failure. No, he said, they must hold on and wait for the Crown Prince.

Strange to say, the Crown Prince and the 2nd Army had already been an hour and a half in action. He had been

delayed at the start, but between ten and eleven the heads of his columns were crossing the Trotina, opposed only by a weak force left to guard his flank by Benedek, who believed he had no serious danger to anticipate from this side. The Crown Prince had sent two officers to Fransecky on the left of the 1st Army to announce his arrival, but Fransecky was so busy with the fighting in the woods that he neglected to pass the good news on to head-quarters. In the campaign of the present day armies thus converging on a battlefield would be in touch by means of wireless messages. On this dull July day of 1866 the Prussian head-quarters were kept waiting for an event that had actually occurred, and the Crown Prince knew only that there was serious fighting on the other side of the Chlum hills. The smoke of artillery fire hanging over them in dense masses told him this, but strange to say he could not hear the thunder of hundreds of guns. The wind was blowing from the north, and, by one of those curious tricks of sound that sometimes are noted, a cannonade that might have been heard thirty miles away was inaudible to the Prussian columns pushing forward to the northern margin of the battlefield.

The first sign of the intervention of this great flank attack that was noted from the main Prussian front was the sudden retirement of guns and masses of white-coated infantry from the hills on the Austrian right. Benedek was on the point of launching his counter-attack towards the line of the Bistritz when he was informed that a new army was pouring across the Trotina river and driving in his detachments on that side. He flung back his right to oppose this movement. During this change of front a division of the Prussian Guard at the head of the right column of the Crown Prince's advance broke through the half-formed line, and pushing on boldly charged into the village of Chlum, and found itself in possession of the dominating point of the Austrian centre. At the same time the news of the Crown Prince's arrival and of his

victorious progress passed along the Prussian lines, and the order was given for the long-delayed general attack on the enemy's front.

Then came the crisis of the battle. Benedek made a desperate effort to retake Chlum, and while this struggle was going on in the very heart of the Austrian position the main attack of the Prussians came sweeping up the hills with a deadly blaze of rapid rifle fire all along its front. At the same time the Crown Prince's army was driving before it the now broken line which at the last moment had been flung across its path by swinging back the right of the defence and hurrying up what reserves could be spared from the centre. On the left the Elbe army was hard at it in close fight with the Saxons in the woods.

What made these frontal attacks from the line of the Bistritz possible was the onward march of the Crown Prince's army. It was a strategic battle. The force that was thus to strike the decisive blow had been placed in position for it by the general scheme of the invasion. Here were 100,000 men pouring in on the flank and rear of the Austrian position, sweeping away the improvised barrier to its advance, driving a wedge of fire and steel into the very midst of the Austrian army, and threatening to cut its line of retreat on Königgratz.

The Austrian resistance was collapsing. Along the front scores of guns were taken as the wave of the main attack swept up the heights. The Prussian King and his staff riding to the ridge south of Chlum looked out on the low ground towards the bridge of the Elbe and saw the enemy's army, a sea of white-coated infantry, converging on the Königgratz bridges, while along the rearward fringe of the moving multitude here and there a regiment halted to meet with its slower fire the attack of the pursuing Prussians, and the splendid Austrian and Hungarian cavalry charged again and again reckless of loss, riding down the Prussian horsemen more than once, but always

being beaten back by the blast of rapid fire that met it when it encountered the infantry. Several batteries were brought up to the crest of the captured heights and sent shells bursting among the retiring enemy. But the self-sacrificing courage of Benedek's cavalry saved his army from utter destruction, and by nightfall it was across the Elbe.

More than 400,000 men had been in action—220,000 men with 780 guns on the Prussian side, 215,000 with 770 guns on the Austrian. The victors lost 8894 men killed and wounded, less than 5 per cent. Thanks to the deadly fire of the breech-loader, the Austrian losses were much heavier, 23,598 men killed and wounded (11 per cent), besides more than 20,000 taken prisoners and 187 guns captured. This crushing defeat decided the whole campaign against Austria and her allies.

In northern Italy the Austrians had won a victory at Custoza on Sunday, 24 June, 1866, a victory rendered fruitless by the decisive defeat of their main army in Bohemia a few days later. Custoza is memorable as a successful fight against odds, a victory of good over bad leadership. After providing for the garrisons and other necessary detachments the Archduke Albert, who commanded the Austrians in Italy, was able to muster only some 60,000 men in the field army which he concentrated about Verona. The Italians had formed two armies, the main army under command of the King Victor Emmanuel and General Lamarmora westward in Lombardy, 140,000 strong, and a second army of 60,000 men under General Cialdini south of the river Po, between Ferrara and Bologna. There was to be a converging attack upon the Austrians, but the plan of campaign for Venetia, drawn up by Lamarmora, though superficially like Von Moltke's for Bohemia, radically differed from it. For at the decisive period of the campaign the Prussian armies were so near each other that Benedek could not strike at one and defeat it, and then march to meet the other, while in Italy the lines of advance

were so widely separated that this possibility was open to the Archduke, and he acted successfully upon it.<sup>1</sup>

On 22 June the main Italian army began the crossing of the Mincio and the advance from the westward into Venetia, while Cialdini threw pontoon bridges over the Po and crossed the southern frontier. The Austrians did not oppose the crossing of the Mincio, and as Lamarmora advanced in several columns a screen of Austrian cavalry fell back before him, making only a show of fighting. He was convinced by this that the Archduke had no considerable force in his front, and on the 23rd he swung round the heads of his columns half-right, intending on the Sunday to seize the hills between Verona and Péschiera and form the siege of the latter fortress. He resumed his march at sunrise on the 24th. He did not expect a battle, and the march was badly arranged. On the left towards the hills two columns missed the road taken by their advanced guards, and the leading battalions of one of them had not even a scout in front of it. No arrangement had been made for mutual support, no clear orders issued, in view of a possible conflict.

At 2 a.m. that morning the Austrians had begun their advance, the main body through the hills, and masses of cavalry and horse artillery on the plain to the south of them. Shortly after sunrise the Italians, advancing through the hills, came unexpectedly upon a formed line of battle. Their advance was checked, and they fought without any organized mutual support against an enemy holding strong

<sup>1</sup> In technical military language, an army acting against separate forces of its opponent is said to be able to act on "inner lines of operations." Von Moltke has himself clearly explained the conditions that make this an advantageous situation. "To profit by the inner line of operations," he says, "it is necessary for us to have enough space to enable us to seek one of the opposing armies at a distance of several days' march, and then be free to countermarch to meet the other. If this space is too small we run the risk of having to deal with both adversaries at once. When an army in the field is attacked in front and flank, it is of little importance that that army possesses the inner line of operations. Its strategical advantage has become a tactical disadvantage."



ground and under the direction of a single mind. On the right in the plain nearly 40,000 were occupied during the battle by the daring attacks of the Austrian cavalry, behind which they felt sure a formidable force of the other arms must be advancing. The battle ended in the Italians being pushed back across the Mincio. There was more than one wild panic in their ranks. And one incident of the day is worth noting, as showing what may sometimes be done by a mere handful of men. During the confused attack on the Austrian position in the hills a single squadron of Austrian lancers, 107 horsemen in all, gained the flank of a division of 5000 men advancing in column of march. They charged through and scattered the leading battalion, and then turned and dashed down the road. The sight of the disaster to the head of the column caused a panic among the other battalions, and there was a general stampede rearwards; 2000 men never stopped till they reached the other side of the bridges on the Mincio. In this charge, which destroyed a whole division as a fighting unit, the Austrians suffered hardly any loss, but as they rode back the lancers came under the close fire of another Italian brigade, and not thirty of them escaped.

After the battle Lamarmora rallied his army west of the Mincio and then retreated across the Chiese and the Oglio, abandoning a considerable part of Lombardy. On the news of the defeat of the main army Cialdini retired into the Romagna. The losses of the victor at Custoza in killed and wounded were heavier than those of the defeated side. There were more than 5000 Austrians killed and wounded, and some 2000 were taken prisoners in local successes of the Italians. The Italian loss was 3400 killed and wounded, and some 4000 prisoners. On the news of Sadowa Austria abandoned Venetia, and the Archduke Albert's army was sent to join the northern army in the defence of Vienna.

The first result of the war of 1866 was that every army in Europe adopted some form of breech-loading rifle. The

Austrian losses in the battles of Bohemia, the way in which their infantry had melted away before the advance of the Prussian company columns, and their splendid cavalry charges had collapsed under the shock of volleys fired in quick succession had impressed on everyone the power of rapid infantry fire. This obvious lesson, lying on the surface of things, had for most people obscured the even more important factors of good organization and scientific leadership on the Prussian side. In France—where the Emperor Napoleon III felt in the victories of Prussia a challenge to the military prestige of the Second Empire—the lessons of the war were misunderstood. Great stress was laid on the necessity of improved armament, but organization and staff work were neglected, and the Prussian army was spoken of as a superior kind of militia that had won battles against the Austrians, thanks to the inferior weapons of Benedek's soldiers; but it was confidently predicted that, when the rearmament of the French infantry was completed, the Prussians would be no match for veteran soldiers of long service led by the marshals of the Empire.

The test came in the war which began in July, 1870, and lasted till the end of January, 1871, with disastrous results for France and far-reaching effects on the military policy of the European nations.

## CHAPTER XIII

### BATTLES OF THE FRANCO-GERMAN WAR

THE battles of the Franco-German War fall into two classes : (1) the battles of the period from Wissemburg (4 Aug., 1870) to Sedan (1 Sept.). These were fought between the German army and the regular armies of the Second Empire. (2) The battles from the investment of Paris in September, 1870, to the armistice of 28 January, 1871, fought between the German armies flushed with victory and the improvised armies of the French Republic.

The infantry on both sides at the outset of the war was armed with a breech-loading rifle. The Prussians and most of the allied German armies had the old needle-gun ; some of the South German States had a slightly better weapon. The needle-gun did not make good shooting beyond a range of 600 yards. The French had a newer weapon—the Chassepot rifle. It was good up to at least 800 yards. All the breech-loaders of the time had serious defects. The solid drawn metal cartridge had not yet been invented ; the result was that the breech-closing action was defective. In the Chassepot a rubber ring was used to prevent escape of powder gas, and with the heating of the barrel this lost its shape and made loading difficult. In all rifles of the time the paper of the cartridge case had to be burned or blown out by the explosion if the barrel was to be kept clear, and this process was not always effective, so that a further difficulty arose from rapid fouling of the barrel. But with all its drawbacks the breech-loader of 1870 was a very deadly weapon compared to the old muzzle-loader.

But the tactics of the fight with rapid-firing rifles were not yet understood on either side. The Germans had not realized the necessity of modifying the old fighting formations in order to economize losses in the advance, but they had this advantage: that they thoroughly believed in the attack as the very soul of battle tactics. In the French army a false theory had been introduced with the adoption of the new rifle. In the French military schools, on the parade grounds, and in military literature from 1866 to 1870, the theory taught was that the advantage had passed from the attack to the defence; that the way to win battles in the future would not be to advance against the enemy but to take up positions barring his line of march, preferably on high ground, then when the battle began, all that was necessary to destroy the enemy would be to sit tight and mow down his advancing infantry with the rapid and relatively long ranging fire of the Chassepot.

A further error was introduced with the adoption of another new weapon, which was secretly manufactured in the French arsenals and issued to the army on the eve of the war. It was a rather clumsy machine gun, known as the *mitrailleuse*.<sup>1</sup> It was in appearance like a light field piece, but instead of a single large bore it was made up of a number of rifle barrels held together in a bundle in an outer case. A breech block was dropped into it, carrying as many rifle cartridges as there were barrels, and then by depressing a lever they were fired simultaneously. The result was a concentrated salvo of rifle fire. But a better effect would have been gained by using a shrapnel shell from a field piece. The *mitrailleuse* had its uses when employed to sweep a street or bridge, and occasionally came effectively into action against masses of troops at short range. But the French had the unfor-

<sup>1</sup> *Mitraille* is the French word for "grape shot" or "canister," showers of bullets fired from a cannon. *Mitrailleuse* might therefore be roughly translated "grape-shot gun."

fortunate idea of substituting it for the field gun. One-third of the so-called batteries of artillery sent to the front were batteries of these new machine guns. They were as good a target for hostile artillery fire as a cannon would be without its long range, and repeatedly the Prussian artillery was able to destroy them by long-range fire without suffering any loss. The adoption of the mitrailleuse, which was expected to work wonders and strike terror into the German ranks, had thus the effect of reducing the artillery armament of the Imperial army by nearly one-third. The French artillery was further handicapped by the fact that it had to oppose the old pattern muzzle-loading guns of the campaign of 1859 to the new Krupp breech-loading artillery of Germany.

As for the cavalry, a false theory of its use proved a further disadvantage to France, and sound ideas of leadership proved an incalculable gain to Germany. The French cavalry leaders held that it could still be used as in the days of the great Napoleon to intervene by massed charges on the battlefield, and that it must be saved up for this purpose. It was a theory on which they had always, or nearly always, acted in their campaigns against the Arabs in Algeria. There the cavalry was kept behind the infantry to be let loose at the decisive moment in a headlong charge. It was rarely employed in scouting, and had no practice in this important duty. The work of scouting was left to the *goums*, bodies of horsemen belonging to friendly native tribes.

In the war of 1866 the Prussians had made only a limited use of their cavalry for scouting and covering the advance. But between 1866 and 1870 they had trained their mounted troops assiduously for this duty, and the advance into French territory was covered by a moving screen of mounted men pushed out twenty or thirty miles in front of the columns of infantry and artillery. This cavalry screen not only denied to the French all knowledge of what was moving behind it, but also sent back abundant

information as to the enemy. The system did not always work well. It was a first trial of it on a grand scale. We are now so used to the idea that it seems an elementary and obvious precaution. It really was not new. Murat's cavalry had screened in much the same way the advance of the first Napoleon's armies, and the Cossacks had covered the movements of their Russian opponents, but it had somehow slipped out of the current military doctrine of most armies in the middle of the nineteenth century. It may be noted that the French had some idea that cavalry were useful for reconnoitring, but all they did in this way was on some few occasions to send out a squadron or two for a few miles in the early morning, and let them return immediately—usually to report that they had discovered nothing, though if they had remained out for a hour or two longer or pushed on patrols for a few miles in advance they would have come in touch with the Germans.

So much for the three arms, but there were differences affecting the opposing armies as a whole. The French army was recruited by conscription, substitutes being allowed, and the men spending many years with the colours. It was a professional regular army of the old type with limited reserves. The reservists had never been called up for training, and most of them had never handled a breech-loading rifle. The Germans were, as we have seen, a national army, recruited under a system of universal liability to service. The men were kept for a short term with the colours, and then were for many years in the reserves or in the second-line organization of the Landwehr. There were thus large reserves, and the reservists were called up for regularly recurring periods of training. The result was that the numbers of men available in the first month of the war were three times those of the French army.

Again, every German corps except that of the Guards was recruited from a single district. The French regiments



THE GERMAN ADVANCE INTO FRANCE  
 Aug., 1870

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had, on the contrary, to draw their reservists from all parts of France. The German reserve of arms and field equipment for each corps was kept in its district, the French had to draw everything of this kind from a few magazines and arsenals, and the supplies even in these were short. The result of these combined causes was that the German army was able to mobilize smoothly and rapidly, the units being completed at their garrison stations and then moved to their points of concentration, all being done with the help of orders and time-tables arranged long in advance. The French hurried to the frontier the regiments as they stood, and set to work to send their reservists and field equipment and stores after them. The result was a confused chaos, and the mobilization was still incomplete when the German armies came pouring across the frontier and the first battles were fought.

On the German side there was a clear, simple plan. Concentration of three armies at a safe distance from the frontier, which was watched by cavalry detachment and a few small garrisons; then, a fortnight after war was declared, came the converging march of the three armies across the frontier covered by the cavalry screen.

The French had also a definite plan. There was to be a rapid concentration on the frontier, the veteran African troops of MacMahon on the right in Alsace between the Rhine and Vosges, the front of the whole army extending northwards with another mass assembled east of Metz. It was hoped that the army would be ready to move before the Germans had completed their preparations, then MacMahon's army was to cross the Rhine about Strasburg, as the vanguard of an invasion which was to divide North from South Germany, and it was expected that a first success would bring Austria into the field as the ally of France and the avenger of Sadowa. But plans of campaign with the great armies of modern days depend for their execution on careful preparation in the days of peace. This preparation, thanks to the systematic work of the

staff, had been accomplished in Germany, but had been neglected in France. The consequence was that while the hurried preparations of the French were still in progress, while desperate attempts were being made to make up at the last moment for the neglect of years, the German armies were made ready and the tide of invasion came rolling into France.

The long-service soldiers of the Imperial army, outnumbered, ill-provided, and badly generalled as they were, fought magnificently, and the invaders had to pay dearly for their success. Having described the conditions of the unequal conflict, I shall not attempt to narrate in detail the course of the various battles. This would be to write the history of the war. We must be content to note certain features of them which throw light on the development of modern battle methods.

The first engagement, the so-called battle of Saarbrück, on 2 August, was an affair of no real importance. Three French divisions were deployed against a weak detachment holding the Prussian frontier town that gives its name to the fight. The Germans abandoned it after making a resistance that led the French reports greatly to exaggerate their numbers.

The real business began two days later with the battle of Wissemburg on 4 August. The French staff had realized now that the great invasion of Germany was impossible. MacMahon on the right with the 1st Corps (four divisions and three cavalry brigades) had been ordered to close up nearer to the northern concentration in front of Metz, and the movement had just begun. A single division of about 8000 men had been sent to Wissemburg, close to the German frontier, where it was marked by the little river Lauter running down from the Vosges to the Rhine. It was commanded by General Abel Douay, and his work was to watch the frontier and to use the bakeries of Wissemburg to supply bread for the army. He placed a battalion in the small walled town and encamped the rest

of his little force on the hills of the Geisberg, which look down on it. From the hills on the other side of the town towards Germany extended a tract of wooded country well calculated to conceal the movements of an enemy. Instead of keeping patrols constantly exploring this dangerous ground, Douay was content to send out a reconnaissance in the early morning. A squadron of cavalry rode out a short distance and returned to report that no sign of an enemy had been seen, and then the division began cooking breakfast. If the squadron had gone two miles further it would have come upon the advance guard of the Crown Prince of Prussia's army. The cooking had hardly begun when the Prussians announced their presence by unlimbering batteries on the hills beyond the town and shelling Wissemburg and the Geisberg heights.

Surprised by an army, the weak isolated division made a desperate defence. Douay was killed in the first stage of the action. Even the accounts given of the affair by the victors admit that his men made a magnificent and stubborn defence. They fought, as the long-service soldier so often fought in old times, with absolute recklessness of life and dogged stubbornness, repulsing the first attacks and only giving way at last to sheer weight of numbers. The wreck of the division retired to the position on which MacMahon was now concentrating his army on the spurs of the Vosges overlooking the town of Wörth.

On 6 August two battles were fought, at Wörth on the French right and at Spicheren on the extreme left. It is remarkable that both these engagements were the result of the independent action of subordinate commanders. The German staff did not anticipate any fighting on that day.

At Wörth the French and German outposts were in touch on the evening of 5 August. But the Crown Prince did not intend to attack the French position until Sunday, the 7th. He meant to employ the whole of Saturday in bringing his entire force up within striking distance of

the enemy. That force was an army of 130,000 men. Even when two or three parallel roads are available the distance from front to rear of the columns of a huge force such as this will be so great that it will require long marches of a day or more to bring all the available men and guns into a single battle line. Three army corps, the 1st Bavarian and the 5th and 11th Prussian corps, were already up at the front, and held the heights facing the French position. The Bavarians on the right were separated by a bold wooded hill from the 5th Corps in the centre. Between the armies was the valley of the little river Sauer, a stream flowing between steep banks and not easy to cross except at the bridges. Wörth, a town of picturesque wooden houses, stands on the Sauer and is the central point of the battlefield. On the right or French bank of the stream there is a wide stretch of open meadows from which rise the spurs of the Vosges. On these MacMahon had occupied a position having a front of about three and a half miles, with an army of only 48,500 men. About 5000 were cavalry, including two fine brigades of cuirassiers. He had 167 guns. He put three divisions in the front line and two in reserve behind his centre; one of these was reduced almost to a single brigade, for it was the same that had been so badly beaten at Wissemburg. The weak feature of the position was that on both flanks there were great stretches of wood which, once an enemy penetrated into them, would give abundant cover to his advance. Against a force of such superior numerical strength as the Crown Prince's army this was a fatal defect.

Under Von Moltke's inspiration it had become the accepted doctrine of German leadership in war—as it still is—that the subordinate commander on the spot must be ready to accept the responsibility of departing from the orders received from head-quarters if the situation seems to demand it, and must not plead that he has obeyed the strict letter of his orders in such cases as an excuse for failing to act vigorously against an enemy or



THE BATTLE OF WORTH

Aug. 6, 1870

Map showing the course of the Great Canals in the district of the Great Lakes.



Map showing the course of the Great Canals in the district of the Great Lakes.

in support of a colleague according to the actual circumstances in which he finds himself placed—circumstances of which the commander-in-chief might not be aware when the order was issued. Besides this latitude allowed to, and even enjoined on, corps commanders, there was the fact that the orders issued from the Crown Prince's head-quarters for 6 August were so drafted as to make a mistake quite possible.

It was distinctly stated that the 6th was to be spent in concentrating on the front opposed to the French position. But without its being stated in the general orders a special order was sent to Von Hartmann, who commanded the Bavarians on the right,—he was told that, as the wooded hills separated him from the 5th Corps in the centre, if he heard artillery fire in that direction he was to attack the French left in order to prevent MacMahon bringing all his forces to bear on the rest of the line.

Early on the 6th Von Kirchbach, who commanded in the centre, pushed forward a small reconnoitring party through Wörth. The French sent a battalion down from the hills to drive it back. Von Kirchbach brought a battery into action against the battalion, and the French replied with four of their batteries. The thunder of the cannonade reverberating amongst the wooded hills was heard by Von Hartmann, and though he could see nothing, he believed it meant a serious fight had begun in the centre. He brought his whole corps rapidly into action against the French left commanded by Ducrot.

The sound of the cannonade to the northwards made Von Kirchbach deploy further forces and bring more guns into action, and the 11th Corps on the left pushed forward and attempted to cross the Sauer at Gunstett. The battle was now becoming general all along the front.

The Crown Prince was still far from the field directing the march of his columns through the wooded country to the eastward. Hearing the heavy cannonade muttering in the distance, he sent off gallopers with orders to both Von

Kirchbach and Von Hartmann to break off the engagement, reminding them that the battle was for to-morrow. When this order reached Von Hartmann he withdrew his Bavarians to their original position, giving Ducrot's division the impression that they had very easily repulsed a serious German attack. Not so Von Kirchbach. He read the order, and at once wrote a reply to it to be carried back to the Crown Prince. He told his commander-in-chief most respectfully that he had decided the order could not be obeyed. He had so far committed himself to the attack that to withdraw would be to acknowledge defeat and give MacMahon the right to claim a victory. This might have a serious effect on the whole course of events. He believed, he said, that if he were on the spot the Crown Prince would take the same course. The battle would continue, and he asked for support.

Meanwhile the cannonade on the German right had ceased, and Von Kirchbach learned that his Bavarian colleague had retired from the engagement. He sent him a positive order to bring his corps into action again. Von Hartmann, annoyed at these orders and counter-orders, expressed his feelings warmly and frankly, but after some hesitation renewed the attack on Ducrot and the French left.

The incident illustrates the difficulties that arise in the battle leading of large armies, with which the commander-in-chief cannot possibly, as in the old days, see and direct everything personally on the spot. The result of Von Kirchbach's bold determination was a hard-won victory. If the original plan had been carried out it would have been gained at less cost and probably with much greater results. With the overwhelming force that would have been hurled against MacMahon it is likely that by a wide turning movement a considerable part of his army would have been cut off from its line of retreat and captured.

Wörth was a typical battle of the period when men were beginning to learn by costly experiment in actual war how



to use the new weapons, but at the same time it is an excellent illustration of how a fight on a large scale is lost and won. One may describe a battle as a series of stirring episodes and brave deeds, but for our purpose what we have to do is to explain the mechanism of the fight. In its first stage, what Von Kirchbach had to do was to keep the French occupied until reinforcements arrived for the attack to be driven home, and meanwhile to prepare the way for it by gaining a footing on the further bank of the Sauer brook and pushing flanking attacks into the woods on the right and left of the enemy. To beat down the fire of the French centre and thus cover the advance across the stream he massed most of his artillery along the slopes in his own centre. He occupied Wörth for the sake of its bridges, and sent a detachment to cross the brook at Spachbach, at the same time ordering General Von Bose to push across with part of the 11th Corps on his left near Gunstett.

For three hours all the German attacks were repulsed, and the loss was heavy, especially in the ranks of the 5th Corps, which was engaged in the frontal attack on the French centre. The advance was made in the recognized battle formation, lines of company columns with the first section of each extended in a skirmishing line. It was soon found that it was difficult to cross the level ground below the heights in any close formation. The ranks opened out, and as they reinforced the firing line and filled its gaps whole companies were absorbed into what was formerly a loose line of skirmishers. The evolution was already beginning, by which under the stress of modern battle what was once a dispersed line of sharpshooters covering the advance has become the fighting line itself.

The attacks were repeatedly pushed forward to the slopes of the main position, but each time with the same result. Under the ever-increasing loss caused by the rapid rifle fire of the French infantry the advance came to a

stop, and then gave way before a counter-attack of line-men, Zouaves or Turcos—these last the warlike tribesmen of Algeria trained and led by European officers. The counter-attacks were seldom pushed home. It was rarely that there was any bayonet fighting. The exhausted men gave way before the sudden blast of fire that heralded the French onset, and the mere menace of the charge. And it was found that very heavy losses were suffered as they withdrew over the exposed ground towards the Sauer brook. This is an experience repeated in every modern battle. To push on may be dangerous enough, but to retire under the fire of an enemy is generally a much more deadly business.

During this stage of the battle telegrams dispatched to Paris by the correspondents of the newspapers (most of which are published in the afternoon) announced a great victory won by MacMahon, and the French capital was wild with exultant excitement.

About 1 p.m. the Crown Prince reached the battlefield and took command. Strong reinforcements were now arriving, and the attack was at last pressed home on both flanks. Its progress was slow, and more than once the advance was not only checked, but driven back by the French counter-attacks. The 11th Corps drove a small detachment out of Morsbronn and then faced northwards and came into action with Lartigue's division, which had changed front to meet it. The division was gradually forced back into the woods of the Niederwald. Even when all the rest had gone, a gallant detachment occupying a farmstead north of the Hagenau road held out against attack after attack, and the place was taken only after it had been shattered by the close fire of several batteries.

The retirement of Lartigue's infantry into the wood was covered by a charge of French cavalry against the flank of the advancing Germans. The troops employed were General Michel's brigade of Cuirassiers and a regi-

ment of Lancers. They had been waiting in the hollow north of Eberbach village. On receiving from Lartigue the request that he would charge, Michel led his horsemen in column up the high ground between the southern margin of the Niederwald and the Hagenau road. He then wheeled round the outlying clump of wood south of the road, forming for the charge during the advance. On the left and furthest to the front were the 8th Cuirassiers in column, squadron behind squadron. To their right a little further back came the 9th Cuirassiers in line of squadrons, and on the left of this glittering line of steel-clad cavaliers the 6th Lancers, a mass of fluttering pennons. The ground in front was unfavourable for a charge. A great tract of woodland had been cut down shortly before, and the rolling plateau was studded with tree stumps and furrowed with open drains. The cavalry had difficulty in keeping their formation, but they rode well together. In front of them was the advancing German line, not the old shoulder-to-shoulder formation of infantry, but a dense firing line in irregular formation, just as the moment of the advance found them. With absolute confidence in the steadiness of their men and the power of their weapons, the German officers did not give the order to form square. They received the charge as they stood, holding their fire till the thundering waves of horsemen were almost upon them. Then a volley crashed and blazed along the line followed by a roar of independent firing. The charging cavalry broke and fell in heaps of dead and wounded men and horses. Here and there a few dashed through the fire only to be shot down or captured by the supports moving up behind the firing line. One troop of Cuirassiers rode on into the village of Morsbronn. Carts dragged across the street stopped the rush and, fired on from the houses and with their retreat cut off, they were all taken prisoners. The wreck of the splendid brigade rode back in scattered groups to the shelter of the Eberbach valley. It was a striking proof of the helplessness of cavalry against steady

infantry armed with the breech-loader—a proof to be repeated later in the battle.

There was a long fight for the Niederwald, now held by Lartigue reinforced by troops from the reserves behind the centre. At the same time Ducrot's division on the other flank was being hard pressed by the Bavarians, Von der Tann's divisions having come up to support Von Hartmann. Here too stretches of woodland gave some cover to the advance. Along the front Von Kirchbach with the whole of the 5th Corps was gradually gaining a footing on the slopes towards the Sauer, and presently sent battery after battery over the bridges of Wörth to support the infantry advance at close quarters. MacMahon had by this time used up all his reserves in reinforcing the three divisions that formed his right, centre, and left. On each of these fronts the Germans now mustered at least twice the strength of the French.

Lartigue's men were at last driven out of the Niederwald forest and fell back to the ground about Elsasshausen. Once more the French cavalry intervened with reckless but unavailing courage. Up from the north end of the Eberbach hollow came Bonnemain's brigade of Cuirassiers, and dashed in wave after wave upon the Germans emerging from the woods. The infantry as before received the charge as they stood, and swept the charging horsemen away with their deadly fire. Only one of the gallant cavaliers passed through their line. He was a colonel of Cuirassiers, and alone in the midst of enemies who were anxious to save his life he was dismounted and taken prisoner.

Elsasshausen, set on fire by the bursting shells of the hostile artillery, was taken by the advancing infantry, recaptured by a French counter-attack, and taken again and finally held by the Germans. On the other flank Ducrot was at last being driven in by the Bavarians. The French army, which had suffered severely, was now huddled round Froschweiler village, the highest part of the ground. The German attack was ringing it round in

a great semicircle, and hostile cavalry, working round the flanks, had cut the line of retreat by the Hagenau and Gundershofen roads in the right rear, and the way to Niederbronn further north. Only the Reichshofen road was still open, and along that line crowds of broken troops were already retiring, many of them wounded.

For MacMahon to hold on any longer would be to court utter destruction and the capture of his whole army. He began a retirement on Reichshofen, rearguards covering the movement through the wooded country. It was nearly six o'clock when the last shots were fired in the woods, and the beaten army, much of it in dire confusion, continued its weary march far into the night, the men exhausted with a nine hours' battle under a burning sun, and most of them starving, for with the defeat all the supplies of the camp had been lost, and he was lucky who had a biscuit left in his haversack. The Germans made no serious attempt at pursuit, and lost all touch for a while with the defeated army. They too were exhausted by their efforts.

MacMahon had been heavily outnumbered in men and guns. It was this great superiority of strength that made it possible for the Germans to deliver an enveloping attack on both flanks. They had on the field in the afternoon 82,000 men and 300 guns, opposed to 48,000 French troops with 167 guns. The victors lost 10,000 men. The French had about 8000 killed and wounded, 6000 taken prisoners, and 6000 more so dispersed that they never rejoined the field army. Some of them joined the garrisons of Strasburg and other fortresses in the east of France. Eighty-two guns and five mitrailleuses were taken in the fight. MacMahon had lost half his artillery and nearly half his men. His army would not count for anything for some time to come, and without making an attempt to defend the passes of the Vosges, without even destroying bridges and tunnels to delay the German advance, he continued his retreat to the camp of Châlons.

On the same day on which the battle of Wörth<sup>1</sup> was fought there was another battle in front of Saarbrück. It is known to the Germans as the battle of Spicheren, to the French as the battle of Forbach. Here too the engagement was the result of the initiative of a subordinate commander, the Head-quarters Staff having given no orders for an advance on that day. Old General Steinmetz, who had fought as a young officer in the wars against the First Napoleon, had reoccupied Saarbrück late on 5 August. The French had that day withdrawn from it the small garrison that had held it since the skirmish of the 2nd. They still held in some force the heights of the Spicheren Berg overlooking the town, and the head-quarters of General Frossard were close by at Forbach. On the 6th, Steinmetz thought he saw signs that the French were preparing to withdraw from the frontier, and anxious to interrupt this movement and capture the rolling stock and stores on the railway sidings of Forbach, he attacked with what force he had at hand. The fighting began at half-past twelve in the afternoon and lasted till 9 p.m., when the last of the French fell back under cover of the darkness, leaving the Spicheren heights and the town of Forbach in the possession of the Germans. Steinmetz had attacked with 34,700 men and 108 guns, against 27,600 French with 90 guns, the corps of General Frossard. The art of using cover when advancing under fire was not yet understood. Men fired in the standing and kneeling positions, as they had done when they had to use a long ramrod with the muzzle-loader. The advance by alternate rushes, and the trick of lying down to fire had not yet been invented. So the successful attack cost the Germans 4647 men and 231 officers killed and wounded. Nearly all the loss fell upon the infantry. Their casualties were 221 officers and 4531 men killed and wounded. The artillery lost 7 officers and 73 men, these low numbers showing how completely they crushed out the fire of the

<sup>1</sup> Called by the French the "Battle of Reichshofen."

French muzzle-loading guns with their rapid-firing Krupps. The cavalry in the brief pursuit lost 3 officers and 43 men.

In the attack on the Spicheren heights the infantry, who made the advance against the front of the position, had to climb a bold bluff where the men had to scramble up with hand and knee with their rifles slung over their shoulders. In this stage of the attack there was practically no loss. At first sight it would seem that such an attack would be a very costly business, and in the old days of war it was generally considered that infantry holding the crest of a steep hill were in a very strong position. But a moment's reflection will show that a steep, broken, and almost precipitous hillside cannot be swept with fire from the crest. Such a position is really weak unless the face of the height can be brought under fire from some projecting spur of the hill. Even then, unless the range is accurately judged and a correct aim taken, the firing produces small results, for the bullet that misses the man it is aimed at is not likely to strike another beyond him, as would be the case on level ground or on a gentle slope. We shall see that as rifles were improved the advantage of holding high ground gradually disappeared.

At this battle of Spicheren the heavy German losses were incurred in the fighting in the Forbach valley, in the advance along the low ground below the heights, in the Spicheren woods, and in the final stage of the action on the plateau that forms the summit of the Spicheren Berg.

In the night after the battles of Wörth and Spicheren the Emperor Napoleon III telegraphed to the Regency in Paris acknowledging serious defeats, announcing a general retirement from the frontier, and admitting that much had been lost by using the phrase, "All may yet be regained."

Before noting some of the salient features of the great battles that followed, a word must be said as to the move-

ments that led to the fighting. MacMahon's defeated army was making its way back to Châlons followed up by the Crown Prince's army. Another French army corps that had been based on Belfort (south of Strasburg) was conveyed by train to join the reserve army forming at Châlons. The northern *corps d'armée*, grouped under Marshal Bazaine's command in the country east of Metz, were retiring on that fortress, followed up by the 1st and 2nd German armies. A day was lost by the French in preparing for a pitched battle on the line of the little river Nied, a project that was abandoned almost as soon as the orders were issued. The retreat on Metz was then resumed, and the plan now adopted by the Imperial head-quarters was that the army under Bazaine (the Imperial Guard and the 2nd, 3rd, 4th, and 6th Corps, in all about 150,000 men) should withdraw across the Moselle at Metz, and then continue its march by Verdun to Châlons to unite there with MacMahon and the reserve army and offer battle to the invaders, whose force would be diminished by the necessity of leaving a large besieging army to blockade the fortress of Metz.

On 14 August the leading corps were crossing the Moselle, and about half the army was still immediately to the east of Metz. On that day there was another battle which was not contemplated in the plans of the German head-quarters staff. Steinmetz with the 1st Army was pushing on directly towards Metz. The King, Moltke, and Prince Frederick Charles with the 2nd Army were moving to the south of Steinmetz's line of march with a view to crossing the Moselle above Metz and cutting in upon the French line of retreat on Verdun and Châlons. The eagerness of one of Steinmetz's divisional generals began the fighting, and the old soldier found himself involved in a pitched battle, in which a large part of the 1st Army was gradually engaged. His advanced-guard commander had come upon the French 3rd Corps (Decaen) near the villages and woods of Borny and Colombey east of Metz. Decaen's



business really was to cover the general retirement and avoid being drawn into battle that would mean loss of valuable time, for the important thing was to get the whole army through Metz, over the Moselle, and on the fair way to Châlons as soon as possible. Instead of merely retiring before the German advance, however, Decaen accepted the challenge, and as more and more German troops came on the scene the French commander-in-chief, Marshal Bazaine, brought back the 4th Corps under L'Admirault to help Decaen, and stopped the march of the Imperial Guard to use them as a reserve. The French not only held their positions, but at one point followed up the repulse of a German attack by driving the enemy out of the woods from which they had advanced. For once the French had numbers on their side, bringing 50,000 men with 206 guns into action against Steinmetz's 30,000 men and 150 guns. The fighting began at 4 p.m. and ended in the late twilight of the summer evening five hours later. The Germans lost nearly 5000 men, the French 3600. Bazaine claimed the battle of Borny as a victory. The Germans call the battle "Colombey-Nouilly," and also claim to have been the victors.

This double claim is interesting. Both were in some sense right. From the merely tactical point of view, which looks only to the actual conflict on the battlefield, the French claim might be held good. They had repulsed the German attacks, and one of the brigades halted for the night on ground strewn with German dead and wounded—ground the enemy had held at an earlier stage in the fight. So they felt they had won. But from the larger strategical standpoint, the view that considers the battle as a mere incident in the vast movement of great armies, the Germans had obtained the object for which Steinmetz fought the action, namely, to delay the French movement of retreat. But for that day's fighting Bazaine would have had his whole army safe across the Moselle early next day, and the subsequent German turning movement,

which four days later ended in his being headed off and shut up in Metz, would have been hopeless.

The battles of 14, 16, and 18 August were really incidents in a great struggle lasting throughout most of a week, and these were the events that decided the ultimate fate of the whole war. On the 15th the French were all across the Moselle. By a bad mistake, though other roads were available, the whole of the huge column of 150,000 men with hundreds of guns and wagons was sent by a single road out of Metz and up the rolling downs that lie to the west of the city. Only when the village of Gravelotte was reached, where the road divides, the great column was broken up; two corps now followed the southern branch of the Verdun road, two more the northern, another corps moved for a while between them by the line of an old Roman road over the plateau.

For once the work of "exploration and reconnoitring" had been very imperfectly done by the German cavalry. All the 2nd and the greater part of the 1st German army was now engaged in a sweeping movement round the south side of Metz. The French had not opposed the crossing of the Moselle. They had even left the bridges intact. As the corps that had crossed moved up in succession on the west bank they found no enemy in their front, and the cavalry reported the whole of the Imperial army to be in retreat on Verdun. It was believed that this movement had made such progress that the German advance northwards to the Verdun road would probably come upon at most a strong rearguard of the enemy.

Steinmetz once more led the advance of the invaders. His leading unit, the 3rd Corps under Von Alvensleben, the men of Brandenburg, with the advanced cavalry, as they issued from the woods of Gorze on the morning of 16 August, came upon the flank of a column of French troops marching down the sloping road that runs westward from Rezonville village through Vionville to Mars la Tour, with the rise of a bold chalk down parallel to it a

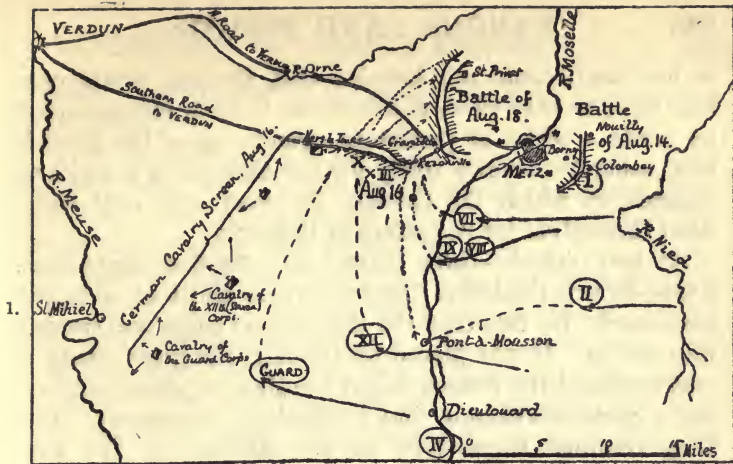
ittle to the northward. Without the remotest idea that what he saw was one of three columns, in which the whole French army was massed just in front of him, Von Alvensleben boldly attacked, and at the outset of the fight drove in the troops immediately opposed to him and captured the village of Vionville on the road. But the French with their right at Rezonville brought up corps after corps to the crest of the chalk down, and the Germans never got beyond the road. From first to last they were heavily outnumbered. Later in the day another corps, the 10th (Hanoverians), under Voigts Rhetz, and a considerable force of cavalry joined Alvensleben, but as the French on the northern branch of the road and the old Roman road across the plateau heard the cannon thunder, they faced left and marched to the support of their comrades. Bazaine had before long five corps on the ground, and though he kept some of them idly in reserve, he actually opposed more than 100,000 men to some 30,000 Germans at the outset and about 60,000 at the end of the day. He had nearly 500 guns at his disposal against less than 300, but scores of guns never went into the battle line.

He had fought his way up from the ranks and distinguished himself as a brigadier and a divisional commander, but he was a poor, hesitating leader when he found himself responsible for the fate of a great army. The shelter of a fortress has the same attraction for a weak commander as the safety of a harbour has for a timid amateur sailor. When the German vanguard came into action his idea was that he had failed to get away safely to Verdun without being involved in a great battle, and that if things went badly he must retire behind the forts of Metz; then came the idea that the Germans would be anxious to cut him off from the support of the fortress, though in plain fact what they wanted now was to prevent him from getting away from it and rejoining MacMahon. So he kept the Imperial Guard massed with other troops on his left about Rezonville, uselessly accumulating men

and guns where they could not even see the enemy, and, worse error still, with an enemy inferior in numbers before him he fought a purely defensive battle. This was partly the outcome of the false theory that had been officially imposed on the French army since 1866—the theory of taking up a position and destroying the enemy with rapid fire from the new weapons as he hurled himself against it. The long crest of the down north of Verdun was an ideal position for this theory, and Bazaine was content to mass troops upon it and repel the German attacks.

If he and his subordinate corps commanders had been inspired by the old French theory—the true theory of war—that the best defence is a vigorous attack, he might have gained a victory that would have altered the whole course of the war. The accompanying sketch map of the battles round Metz indicates the positions reached by the various corps of the German army at the end of the day on 16 August. It shows clearly that the two corps engaged in the battle had no support near them; that the whole of the 1st and 2nd German armies were scattered over a wide tract of country, and needed another twenty-four hours to close up within supporting distance. Bazaine could not know all this. But this much he could easily have known—many of his subordinates realized it—that he had a very inferior force in front of him, and that at best the other corps of the German army were strung out behind the troops in action along the Gorze road and at the crossings of the Moselle. A vigorous advance of his whole force must have driven in the single corps he was opposed to at the outset; and then he could drive back the nearest supports, and with troops flushed with success push the Germans back upon the Moselle.

But as he was content to “sit tight” and merely parry blows without returning them, the little German vanguard that faced him was perfectly safe. But Von Alvensleben, when he found the enemy continually massing



German movements Aug. 16, shown thus ← — — — — — : Positions reached by Corps on afternoon of 16th shown thus (VII) (=7th Corps): Movements of the 17th — — — — — →: of the 18th - - - - - →: the only roads shown are those by which the French tried to retreat on Verdun. (|||||) Battle fronts. \* \* Forts of Metz



BATTLES OF THE FRANCO-GERMAN WAR

- |    |   |   |                      |
|----|---|---|----------------------|
| 1. | { | BORNY (Colombey-Nouilly). Aug. 14, 1870             | } Battles round Metz |
|    |   | REZONVILLE (Vionville, Mars-la-Tour). Aug. 16, 1870 |                      |
|    |   | GRAVELOTTE (St. Privat). Aug. 18, 1870              |                      |
| 2. |   | SEDAN. Sept. 1, 1870                                |                      |

in his front, could not imagine that Bazaine would give him such an easy time, and in order to keep him occupied he made a series of persistent attacks upon the French line, using his cavalry freely for the purpose in a series of charges, in which the German horsemen gallantly sacrificed themselves for the safety of the army.

At two o'clock—three hours after the first shots were fired—Prince Frederick Charles arrived and took over the command. By this time the Hanoverian corps was coming into action. It was placed on the left, the point where it was expected the French might use their superior numbers for a great enveloping and outflanking movement. But they confined themselves to the defence of the high ground north of the Verdun road. About two hours later the inaction of the enemy encouraged the Germans to attempt an attack on the heights. The French had in front of the Hanoverians a strong firing line well down the slope, and a long array of batteries on the crest. Out of sight behind this crest there were some 12,000 French bayonets at the point where General Voigts Rhetz, under-rating the local strength of his opponent, flung forward a single brigade about 4500 strong. It was a rash attempt to pass over open ground in close company columns covered by a skirmishing line under the fire of the breech-loader, the full power of which no one had yet realized. The French opened from a double tier of fire, the firing line on the slope and the infantry in close formation on the crest. The brigade came to a dead stop and melted away under the awful storm of fire. In half an hour it lost 2000 men. The French saw its plight and for once advanced to a counter-attack. The Germans broke and fled, and were only saved from utter destruction by a charge of the Dragoons of the Prussian Guard. They lost half their number, but saved the remnant of the unfortunate brigade. The French took over 400 prisoners, but instead of pushing their advantage and following it up with a general advance, they drew back to the high

ground. Even men in the ranks felt the generals were blundering.

Fritz Hoenig, the famous military historian and critic of later years, was with the beaten brigade and was slightly wounded. Describing the effect of the storm of fire that swept down upon the attack, he writes: "I am not ashamed to own that the French fire at Mars la Tour affected my nerves for months after the battle. Troops that have survived an ordeal of the kind are for a considerable time demoralized, men and officers alike, and I am not the only man who says this." And yet it is certain that the French were badly trained in the use of the rifle, and shot wildly, sighting very carelessly, and often firing from the hip as quickly as they could load, and shooting at random. Yet, even so, there was two days later a still more striking revelation of the power of the new weapon.

The battle of 16 August closed with a great cavalry *mêlée* on the extreme left of the German line, masses of cavalry that had been concentrated on that flank by both sides coming into conflict, in which several thousand horsemen were engaged. The advantage was with the Germans.

Darkness ended the fight, and once more both sides claimed the victory. The French had held their main position. The Germans had won some ground at the first rush, and kept it to the end. But once more there was a solid gain for the invaders. Both sides had blundered, but it has been truly said that in war he is the victor who makes the fewest blunders, and the worst blunder was on the side of Bazaine. He had allowed the Germans to stop the march on Verdun, on which so much depended, and by his purely defensive tactics thrown away a great opportunity.

The battle lasted ten hours—from 11 a.m. to 9 p.m. The French had 113,000 men on the field, but of these at least 30,000 were never actually in action. The Germans from first to last brought up 63,000. They had

nearly 15,000 killed and wounded. The French lost over 11,000.

On the morning of the 17th Bazaine might have resumed his retreat on Verdun. It was not till evening that the Germans were able to bring up a superior force to the line of the Verdun road. But though he claimed to have won a great victory, to the disgust of his men he fell back from the Rezonville battlefield to a line of heights east of Metz, running north and south from the Moselle to the valley of the Orne. His left was near the Moselle facing Gravelotte, his right at St. Privat.

On the morning of the 18th the Germans made a great wheel to the right, bringing their line round to face the French positions, with the right near Gravelotte. Bazaine, though he had some 13,000 cavalry with him, had sent out no reconnaissances to watch the enemy, and his outposts were close in to his camp along the heights, so, strange to say, he knew nothing of the advance in his immediate front of six huge columns of the enemy—some 180,000 men with more than 700 guns. It was an absolute surprise when, a few minutes before noon, a German battery opened fire and sent a shower of bursting shells into the camp of the 4th Corps in the centre of the French position.

The fight, which lasted until after dark, was the greatest battle fought in Europe in modern times, except only the three days' battle around Leipzig in 1813 and the battle of Sadowa. Three hundred thousand men and more than a thousand guns were in action; 187,600 men on the German side, and 112,900 on that of the French. The battle fronts were from seven to eight miles long. The French more than held their own on the left, but the Germans were decisively victorious on the other flank, turning and driving in the French right just before night-fall. Bazaine fell back upon Metz next day, and was besieged there and eventually starved into surrender.

The German artillery, used in great masses—at one point more than a hundred guns were in line—asserted



effectively its superiority over the French artillery, and prepared the way for the attacks on the position, which may be divided into two groups. At the southern end of the battlefield the attacks on the French left ended in failure. Much useless loss was incurred by an ill-judged advance ordered by General Steinmetz. Having silenced the French batteries and set on fire the farms held by the infantry, he thought he saw indications that the enemy was abandoning the position. He therefore pushed forward from Gravelotte, across the hollow of a ravine formed by the Mance brook, a battery of artillery and some squadrons of cavalry. These came under heavy rifle fire. The gunners were shot down beside their pieces, the teams destroyed, and the cavalry, partly mounted on horses taken over on the eve of the war, broke and in their flight produced a widespread panic, which was augmented by a counter-attack of the French infantry. There were several of these local counter-attacks from the French left during the day, but they were the work of small bodies of troops. The French never attacked in force. Once more they fought a purely defensive battle, and Bazaine, again deluded with the false idea that the Germans were anxious to interpose between him and Metz, kept a huge reserve uselessly massed on the left, including the 30,000 bayonets of the Imperial Guard.

There is little doubt that after the failure of the first German attacks a French advance in force would have had good prospects of success. There had been more than one panic in the German lines. Even good troops will break down in this way sometimes when the men are weary with long marching, exposed to intense heat, half hungry and parched with thirst, and then subjected to the trial of enduring serious loss without any visible result to compensate for it. A German officer who was engaged in this fighting in front of Gravelotte tells how he saw scores of men who had quitted the ranks to lie down or crouch under cover. At the close of the day the woods on this

side were full of disbanded men, many of them unwounded. The situation was saved towards the end of the battle by the arrival of the 2nd (Pomeranian) Corps, who had been on the march since midnight. These were sent forward to hold the line in front of the French left, where the attack had thoroughly broken down.

But the battle—thus lost on the German right—was won on the left, not however without a costly failure precluding the final success. The 6th French Army Corps, commanded by Marshal Canrobert, a veteran of Algeria, the Crimea, and Italy, formed the French right, and held the northern end of the heights around the village of St. Privat. In front the ground was a gentle slope of unfenced, open fields, without a vestige of cover. Up the middle of this open ground ran the poplar avenue of the road to St. Privat from the village of Ste. Marie aux Chênes. The Prussian Guard Corps drove a French detachment out of Ste. Marie, and then put their artillery into action against the heights round St. Privat. In their rear the 12th Saxon Corps, commanded by the Crown Prince Albert of Saxony, moved into the Orne valley, working its way round to attack the French position in flank. St. Privat, held by some 30,000 Frenchmen, was thus to be assailed by the converging attack of 60,000 men in front and flank. Once they had established themselves on the high ground they would move southward, rolling up the French line in combination with an attack from the German centre.

At five o'clock the commander of the Prussian Guard Corps believed he had given the Saxons time enough to reach the point from which they were to deliver their flank attack. The French fire from the high ground in front had nearly ceased. The artillery had been silenced, and Canrobert was keeping his infantry lying down behind the crest. The order was given for the Guards to advance, and they went forward in massive columns to right and left of the road up the slope. At once the French opened fire from the crest, a fire that rapidly rose into such a roar

of sound as had not yet been heard on a battlefield, while the bullets swept the slope in a continuous driving shower that tore the leading companies of the advance, and strewed the ground with dead and dying. For a while the Guardsmen moved steadily on, then at about 600 yards from the crest of the slope the advance came to a dead stop, and the men lay down and returned the fire. In twenty minutes they had lost nearly 6000 killed and wounded.

The attack had been delivered just an hour and a half too soon. During that time the Guardsmen remained lying out on the slope, while a hundred guns firing over them shelled the French position. It was nearly seven o'clock when from the Orne valley the Saxon guns were heard in action against the French right, which was now exposed to a terrible cross fire of artillery. Canrobert's men had fired away nearly all their cartridges, and he sent in vain requests for a fresh supply. Only a very small quantity had reached him when the second attack was delivered, by the Saxons from his right and the Guards in his front. This time no heavy storm of fire met the onset, but it was only after a desperate fight, in which at times bayonets were crossed, that St. Privat was taken, and Canrobert fell back from the crest to the wooded slopes behind it under the cover of the gathering darkness.

The German victory was dearly bought. The French lost 7850 killed and wounded and more than 400 prisoners. But the German losses in killed and wounded were nearly 20,000.<sup>1</sup> The heaviest loss fell on the Guards Corps. It had 309 officers and 7923 men killed and wounded, about one-third of its infantry strength. The Jäger (Rifle)

<sup>1</sup> The exact number was 19,640. The loss was almost entirely among the infantry. The losses of the three arms were: infantry, 798 officers, 18,237 men; artillery, 78 officers, 841 men; cavalry, 8 officers, 140 men. Hardly any of the cavalry were in the fighting. The artillery losses were chiefly on the German right, and in a French counter-attack in the centre at the outset of the battle in which two guns of a battery that had been pushed too far to the front were captured. Though defeated the French did not lose a single gun.

Battalion of the Guard, which led the attack, lost all its officers and nearly half its men. The 2nd Grenadiers lost 38 officers and 1020 men; the 4th Grenadiers, 27 officers and 902 men.

It was a terrible lesson. After such an experience it was recognized that the attacks by masses of infantry were henceforth impossible against troops that had any fight left in them. The rapid-firing breech-loader had settled the question. Henceforth attacks had to be pushed home by successive lines—the firing line in the front in such loose order as would enable it to take full advantage of all cover, behind it lines of supports and reserves, to feed the front line, the final attack being delivered after the enemy's fire had been beaten down and his men so shaken that they could no longer shoot straight, and then delivered not by the stately advance of serried masses, but by the advanced lines closing on each other and dashing forward under the impulse of new reinforcements, while under cover of this advance strong reserves went forward in closer order.

On the day after Gravelotte, Bazaine had withdrawn his army under the shelter of the outlying forts of Metz, and the long siege, or rather blockade, of the place began. Leaving part of the 1st and 2nd Armies to keep up the blockade under the command of Prince Frederick Charles, the Germans formed a fourth army, known as the "Army of the Meuse," under the Crown Prince of Saxony, to continue the advance into France. It was to march to Châlons, combining its operations with those of the 3rd Army under the Crown Prince of Prussia. Two hundred thousand men were entrenching themselves round Metz and holding Bazaine fast there. Two hundred and twenty thousand more were moving against MacMahon at Châlons.

The Emperor Napoleon, dispirited by failure and worn with illness, had joined MacMahon at the camp of Châlons, where four army corps—about 120,000 men—had concentrated. Some of these were only recovering from

defeat and disorganization. Other units were as yet imperfectly equipped for campaigning. To await the oncoming mass of victorious Germans and offer battle in the plains of Châlons would obviously be to court disaster. At a council of war at Châlons a wise plan was adopted. The army was to retire under the shelter of the forts of Paris, complete its organization, draw reinforcements from the rest of France, and then offer battle under more favourable conditions. But from Paris the Council of Regency and the War Office protested that to retire on the capital would produce a revolution; that MacMahon must try to combine with Bazaine; and that he must make the attempt by a rapid march to the north-westward, slipping round the right flank of the advancing German armies and then falling upon the besiegers of Metz while Bazaine broke out against them. Three hundred thousand Frenchmen would catch Frederick Charles's army of 200,000 between hammer and anvil, and after this great victory they would interpose between Germany and the other invading army which had been moving on Paris. On paper it was a wonderful scheme, but it had the drawback that MacMahon's army had only the remotest chance of evading the advancing German armies, and ran the gravest risk of being pinned against the Belgian frontier and destroyed, or driven into neutral territory and disarmed.

After a brief exchange of telegrams between Châlons and Paris the plan was accepted. The march began on 23 August. Poor as the chance of success was, it was further diminished to vanishing point by hopelessly bad arrangements. The army moved north-westward from Châlons and Rheims in four parallel columns. The cavalry marched on the left, the side furthest from the enemy. They ought to have been out to the right screening the movement by keeping in touch with the German cavalry, and by vigorous strokes delaying their march and keeping them in the dark as to what was going on behind the

cavalry screen. On the 26th the Germans, who till then had been moving westward, discovered the flank march of MacMahon, by news indiscreetly published in the Paris papers, read in London, and wired from the embassy by way of Berlin to the head-quarters of King William. At once the 3rd Army and the Army of the Meuse swung round to the right and began a series of forced marches to the northward.

The French had two days' start, but they were marching badly and covering very little ground. Presently the German cavalry began to harass their right column. There were halts in expectation of an attack in force, a whole day lost in a change of plans, adopted only to be abandoned a few hours later. A whole Army Corps, the 5th, under De Failly halting among the woods at Beaumont, without outposts to protect it, was surprised and almost completely destroyed by a sudden German attack on 30 August. Next day the unfortunate army of MacMahon was across the Meuse to the east of Sedan, with the enemy in superior force in its front on the right bank of the river and on its flank and rear on the other side of it. MacMahon abandoned the idea of making any further progress eastward, and retired on Sedan. He hoped to save his army by continuing the retreat by way of Mezières and then south-westward on Paris with the help of the railways.

He was reckoning without the persistent energy of the German leaders. On 1 September he was attacked at Sedan. The essential points of the story may be very briefly stated.

The French had taken up a defensive position on the ground where they halted on the evening of 31 August. This ground was a roughly triangular-shaped plateau, with its base along the Meuse and its apex at an eminence above the village of Illy crowned by a large cross, and known in the narratives of the battle as the "Calvary of Illy." The old fortress of Sedan, dating from Vauban's days, and no longer tenable against long-ranging artillery which

could command it from the heights on the south side of the Meuse, was the head-quarters. The river barred an advance on this side of the triangle. The left, or western, front from the Meuse to Illy was held by the 7th Corps (Felix Douay); on the other or eastern front, with its left at Illy, was the 1st Corps (Ducrot), facing the long hollow by which the Givonne brook flows down to the Meuse. The line was prolonged by the 12th Corps (Lebrun), which held the large village of Bazeilles near the Meuse. Within the triangle in reserve were the cavalry and what was left of the unfortunate 5th Corps, now commanded by General de Wimpffen, who had just arrived from Paris.

Von Moltke's plan of attack was based on the idea of making it impossible for the French either to continue their retreat eastward or to retire into Belgium. The French army was to be enveloped and forced to surrender where it stood. In the night the Crown Prince's army was set in movement to cross the Meuse at Donchery, close the narrow gap between the bend of the river west of Sedan and the woods of the Ardennes forest, through which near at hand runs the Belgian frontier, and then attack Douay's corps, extending its fighting line to the left till, about Illy, it would join hands with the other attack coming from the eastward. This was to be the work of the Army of the Meuse, already across the river, with the Guards Corps and the Saxons well to the front. With their attack on the east front of the French position there would be a combined advance of Von der Tann's Bavarians across the Meuse and against the village of Bazeilles on the French extreme right. From a long ridge south of the river the staff would direct the combined operations, and batteries massed on this high ground would shell the French positions.

MacMahon seems to have anticipated only an attack from the south and east. Of the French commanders Ducrot was the only one who realized the danger of the line of retreat being cut, and he was anxious that the

movement westward should be resumed at once. But no one understood the full peril of the situation. Under the cover of the dense mist that hung over the Meuse valley at sunrise on 1 September the Germans moved into position. The first fighting was about Bazeilles, where the Bavarians attacked soon after daybreak. Then battery after battery opened from the heights south of the river, and the attack of the Crown Prince of Saxony's army developed along the Givonne valley against Ducrot's line and Lebrun's left. Early in the day MacMahon was badly wounded by a bursting shell, and Ducrot as the senior general present took over the command, and at once directed a general movement westward—the retreat towards Mezières he had proposed the evening before. Some of the positions on the east side of Sedan had already been abandoned and occupied by the Germans when General Wimpffen produced a commission from the Paris Regency, directing him to take over the command in case MacMahon was killed or wounded, and insisted on superseding Ducrot. Refusing to believe the enemy was in serious force to the eastward, he ordered a general advance in that direction. But the most the French could do was to hold on for a while to the ground overlooking the Givonne hollow and make a desperate fight for the possession of Bazeilles. Then the Crown Prince of Prussia's army began to come into action to the westward, and gradually extending their fighting line to the left, joined hands with the eastern attack at Illy. The French were now enclosed in a circle of fire, and the capture of Bazeilles on the right and the Illy height at the apex of the position turned both their lines of defence.

By this time a good deal of demoralization had shown itself in the ranks of the French army. Assailed from all sides, and with a converging and crossing shell fire raining upon them from hundreds of guns, they began to give way, and crowds of disbanded fugitives streamed back into Sedan. Twice the cavalry charged the advancing



Germans, but they only rode to swift destruction under the blast of fire that met them at close quarters. The Germans now pressed the attack, bringing their guns up beside the infantry in a way that would have been impossible against anything but a half-broken army. Further resistance was now hopeless, and with the beaten army huddled in confusion round Sedan and 700 guns pouring destruction on it from the surrounding heights, the Emperor ordered the white flag to be hoisted to end the useless sacrifice of life.

One hundred and fifty-four thousand Germans had been opposed to 90,000 French; 710 guns on the side of the former to 468 on that of the latter. The Germans lost a little over 8000 men killed and wounded, the French 17,000. Some 20,000 were taken prisoners during the battle. All the rest surrendered next day. About 5000 had escaped from the field before the iron ring closed round them. Some of these were disarmed in Belgium; some made their way through the woods to Mezières. The Emperor Napoleon III was among the prisoners.

As the result of a single month's successful operations the Germans had thus locked up the flower of the French army in Metz, and captured nearly all else that remained of it at Sedan. Most of the small number of French regulars that remained were the nucleus of the Paris garrison, and Paris itself was besieged in the third week of September. The Empire had fallen, and the Republican Government, substituted for it on 4 September, prolonged the war for nearly five months with improvised field armies and levies of free corps.

In this second stage of the war—the popular rising against the invaders—many battles were fought. In a few instances the French won a temporary success. In far the larger number of engagements they were defeated, and defeated by forces numerically inferior to their own, but superior in leadership, organization, and fighting value.

There are a few points worth noting as to the events of this second stage of the war.

First of all, although some of the irregular corps, the bodies of "*franc-tireurs*," or "free shooters," were made up only of skulkers from the organized levies of troops, men who were content to perform a minimum of useful service, and roamed about the country living on the contributions of the people either freely offered or exacted in ways that sometimes bordered on brigandage, many of the corps did good work and seriously hampered the operations of the invaders. In the first phase of the war before the popular rising, the German cavalry, riding well in advance of the marching columns, had been singularly successful in collecting information. They were what they were meant to be, "the eyes of the army." In the second stage, and especially after the beginning of the siege of Paris, the German field armies found themselves to a great extent blind, or at the very least involved in a dense "fog of war." For with scattered bodies of hostile sharpshooters infesting the country and using their local knowledge to harass every movement of small bodies of the invaders, the German cavalry patrols could no longer ride freely in advance of the marching columns. They were shot down by unseen foes, or cut off and captured, and the range of vision of a marching column was soon only what could be seen from the road by its vanguard. Ill-organized as they were, the *franc-tireurs* did something to supply for the lack of efficient cavalry units in the new armies of the Republic. With better organization and direction very great results might have been secured by such guerilla tactics.

In the battles in the open field, fought against the armies advancing to the relief of Paris, the Germans were generally, but not always, inferior in mere numbers. At the second battle of Orleans they had numbers on their side—93,000 men and 400 guns under Prince Frederick Charles were opposed to 60,000 French with 222 guns under

General Aurelle de Paladines. The Germans lost only 1750 men, the French had 2000 killed and wounded and 18,000 taken prisoners. This record of losses is enough to show they did not make a good stand. But the "Army of the Loire" had been forced into a premature advance, despite the protests of D'Aurelle, its commander. The Government at Tours had misinterpreted a dispatch from Paris, and read it as meaning that the great sortie of a few days before had broken through the besieging lines. It therefore ordered D'Aurelle to advance and join hands with the Parisians. In vain he declared that his army was not yet ready to take the field, and was largely composed of untrained and ill-equipped men. This incident is typical of the second stage of the war on the French side. The Provisional Government had not the patience to be content with merely harassing the invaders, and taking time to form armies fit for regular field operations and pitched battles. As soon as a number of men were enrolled and armed, it sent them into action, and after a defeat repeated the mistake by filling up the ranks with new levies and ordering another advance.

This alone is enough to explain why the French so often failed even with the advantage of numbers on their side. But the matter deserves a fuller examination. To understand the conditions of this phase of the war it must be noted that for years before the crisis the opposition in the French Chamber had rejected the proposals of the Government to form a second-line army of the Mobile National Guard. The force existed only on paper. It had never been called out for a single day's drill. It was mostly unarmed, and had no field equipment. When the war came everything had to be improvised. A number of old soldiers provided a leavening of officers and sergeants, but even these were not sufficient in numbers. Of course, the improvised artillery and cavalry were inferior in value even to the infantry. A second-line army well armed and equipped, thoroughly organized under a competent staff

and partly trained in time of peace, can rapidly develop into a formidable fighting force when called out for war. But the new French levies had to be improvised *after the war had begun*, and had absolutely no previous peace training. Even an improvised army can, under the stress of actual campaigning, gradually learn its business, as the experiences of the American Civil War showed. But the war in France did not last long enough for this effectual hammering into shape to give any large results.

Numbers can compensate for inferiority of training only under conditions that it is hard to ensure in the field. Only those men and guns count in a battle that are brought into effective action and in combined efforts. With an improvised staff and half-trained troops an attack is made piecemeal. The first line engaged does not receive timely and strenuous support. With a fire that wastes much of the ammunition employed, and is met by the trained reply of regular troops, the men engaged are severely handicapped from the first. Want of march discipline and practice leads to flank movements being misdirected or coming in too late. Deployments are slow, and either useless loss is incurred by not making proper use of cover, or men stick fast behind any shelter and content themselves with firing without trying to push on. Finally, panics are liable to take place and a retirement easily degenerates into a rout. The story of many of these French battles tells of success at the outset, when the first rush came in contact only with the enemy's advanced posts; then a dead stop as the hostile resistance gathered strength; after this ill-combined and half-hearted attacks; thousands of men taking no real part in the day's work; finally, a general break-down and a retreat with heavy loss in prisoners and stragglers.

There are indications that towards the end of the struggle the quality of the French field armies had improved considerably. The weaker elements were being grimly weeded out by the sheer stress of campaigning, and

those who held on were being formed in the hard school of the march, the bivouac, and the battlefield. Regiments that had done three or more months of service under war conditions contained a large element of reliable officers and men, a "cadre" into which new recruits could be absorbed without seriously diminishing the value of the unit. At Villersexel (10 January, 1871), the first battle fought during Bourbaki's attempt to raise the siege of Belfort and strike at the German line of communications, the French won a decided success, and not only this, but on their left they opposed a single division to an equal force of Germans, and fighting on even terms more than held their own. Villersexel town had been rushed early in the day by the Germans when it was held only by Bourbaki's weak vanguard. The French retook it by sheer hard fighting. But even here the weakness of an improvised army deprived the victorious general of much of the possible fruits of his success. Bressolles' corps on the French right could easily, by a vigorous advance, have cut the German line of retreat, but it failed to intervene seriously in the action. Of its 20,000 men only about 500 were actually engaged.

Again, after the victory, Bourbaki found that a rapid advance towards Belfort was impossible. He moved so slowly that there was time for 45,000 Germans under Manteuffel to bar his advance in the entrenched position of the Lisaine. For three days the French 140,000 tried in vain to force the German lines, and after this failure the campaign ended with the retreat of the beaten, starving army through the snow and ice into Switzerland. The whole of the second stage of the Franco-German war was a terrible proof of the hopelessness of improvising armies in the face of a disciplined and thoroughly well-commanded enemy.

## CHAPTER XIV

### THE ENTRENCHED BATTLEFIELD —PLEVNA—SOUTH AFRICA

**T**HE Franco-German war, quite apart from its far-reaching influence on the politics of Europe and the world, marked an epoch and a turning-point in military history. It was the beginning of a period of activity in armaments, military inventions, and the development of organization, training, and tactics which witnessed changes greater than any that had been seen since the introduction of fire-arms made the methods of knights and men-at-arms, archers and halberdiers as obsolete as those of the Greek hoplites and the Roman legionaries.

There were three main lines on which these developments proceeded in the thirty years that brought the nineteenth century to a close. (1) There was a change in the whole system of organization for war—the Prussian ideal of “the nation in arms” became that of all Continental Europe and of the Japanese disciples of European civilization. (2) A series of new inventions and improvements made the weapons of war much more efficient and deadly, and at the same time these improvements ceased to be the monopoly of the white races. (3) These changes in armament and organization led to sweeping modifications in tactical theories and the training of armies, these being at first based almost entirely on the study of the events of 1870-1.

The enforced cession of Alsace-Lorraine to Germany

led to a movement in France for the reorganization of the army with a view to a war of reconquest in which the humiliations of "the terrible year" would be avenged. The reorganization was based on the Prussian system of universal liability to military service. This is sometimes misinterpreted to mean universal service, but no great nation has yet drawn the whole of its manhood into the ranks of its first-line army. All are liable to serve, but only a certain proportion are taken. This proportion has, however, since 1871 been constantly rising. Germany at the outset increased its army to meet the threat of a war of revenge, and at various times since then, under the influence of war scares, both France and Germany have permanently widened the scope of their military systems. All the other nations of the Continent have followed their example. The scale of armaments has been continually rising, and the Continent has gradually become an armed camp.

It was the most obvious lesson of the war of 1870 that France had failed on account of her lack of organized preparation, and Germany had succeeded because she had long been systematically and scientifically making ready for the conflict. It was recognized that wars in the future would be largely decided by the preliminary work done in the days of armed peace. Hence the new importance attached not only to the education of officers, and the great rehearsals of annual manœuvres, but also to the detailed collection of information, the preparation of plans for mobilization and concentration on the frontiers, the elaboration of plans of campaign for every likely eventuality. War was no longer to be a duel between professional armies. It was to be a life-and-death struggle between armed nations, and the preparation for these gigantic conflicts laid even upon the years of peace a costly burden greater than the strain of war itself had been in earlier days.

A part of this strain was the result of the new necessity of providing and maintaining an elaborate armament for

hundreds of thousands, it might be millions of men, and completely changing this from time to time as new inventions made even weapons of recent manufacture obsolete. The course of invention, so far as warfare on land was concerned, was briefly this: the infantry weapon—the breech-loading rifle—was improved, the first great improvement being the invention of methods of manufacturing by machinery a solid drawn brass or copper cartridge-case. This metal case expanding under the shock of the explosion formed a complete stopper to any escape of hot powder gas into the breech action. The perfected rifle became then a possibility. The newer types of rifles had all a more reliable action and a longer range, and were easier to keep in order and handle. In field artillery there was a general substitution of various types of breech-loading guns for the now obsolete muzzle-loaders, and a general adoption of the shrapnel shell as the projectile for use in battle. Invented as long ago as the days of the Peninsular War, and first used at Vimiera by a British battery, the shrapnel shell had been very slow in winning full recognition as anything but an exceptional resource for the gunner. Even in the French war the Germans had only an old-fashioned “common shell” bursting on impact with a percussion fuse. The French batteries had shrapnel, but showed little skill in its use. The shrapnel is a shell containing a number of bullets. The use of the bursting charge is not to scatter these, but to set them free to continue their flight, in which they tend to scatter into a cone as their velocity decreases and they come to the ground. To be effective it must have a reliable fuse which will burst it at the intended moment, and the adjustment of the fuses and the ranging of the fire must be so correct that the shell is opened out by the explosion in the air well in front of the enemy, and just at such a height and distance from him that the shower of balls will come curving down upon the ground he occupies. This means a well-devised and carefully manufactured fuse, and a high



standard of training in the gunners. Considering how difficult it was for a long time to ensure these conditions, one cannot wonder that the simpler percussion-fused "common shell" held its own so long. But the common shell, though effective in demolishing barriers and walls and bombarding buildings, broke into only a few fragments and caused comparatively few casualties. The shrapnel bursting in the air and sending down its showers of bullets is the "man-killing" projectile for artillery, and its general adoption enormously increased its power as a battle weapon.

Other and still more important inventions were yet to come in the period we are now considering, but before referring to them something must be said of the influence of the experiences of the Franco-German war on tactical theories and military training. No war in the world's history led to so much keen discussion of the possibilities it had revealed, the changes in battle methods that it indicated. The war had been carefully watched and very fully described during its progress by enterprising correspondents, and it had hardly ended when there began the output of a mass of literature on the subject—historical and critical. There was therefore abundant material for the discussion of a great experiment in warfare under new conditions, and with huge masses of combatants in the field.

Some practical lessons seemed to lie on the surface. There was a very general agreement that under rapid rifle fire not only the assault in column was impossible, but also the advance of the old shoulder-to-shoulder line. It was recognized that though the new rifles could range up to 1000 yards or more, fire at such distances was not seriously effective. The descending curve of the bullet was too acute. Fire began to be deadly as the range shortened and the shower of bullets, instead of plunging to earth from a high, curving flight, could be made to do something like sweeping the ground. Hence with the

weapons of that day the advance to within about 600 yards was not very costly. Up to that point the real danger was from artillery fire. But from 600 yards onward the fire of the rifle became more and more telling. The problem was how to carry an attack forward across the last 400 yards.

It was found on examining the details of the fighting in France that successful assaults were described by those who witnessed or took part in them as having been carried out by "swarms" of men rushing the position after the fire of the defence had been beaten down. The "swarm" as an attack formation had come into existence as the unexpected result of new conditions of the battlefield. The skirmish line of earlier campaigns had become the firing line, making its way gradually forward, and having its losses supplied by pushing fresh men up from the rear. It had been found that these supports could only get forward without heavy loss if they also moved in loose, irregular lines. Unless in broken ground no closed bodies of men could move without such loss in a space of some hundreds of yards behind the firing line. It was also found that after a while the "go" of the men first sent into action came to an end, and the fighting line could only be pushed forward by sending reinforcements into it to give it a new impetus.

The final rush on the position became possible when at last the rifle fire of the attack at close quarters, and that of the supporting artillery firing over the advancing infantry, had beaten down the enemy's fire, making it irregular and ill-aimed, and when probably at the same time under long-continued exertion and much loss the men who held the position were wearied and out of heart, with their ammunition supply running low. It would then be possible to rush reinforcements into the firing line and bring up all available supports, this rush being made in extended irregular lines. Then the swarm thus formed by line piling itself on line in a mass ten or twenty

deep would pour over the position, probably finding the enemy was abandoning it. The swarm would be made up of regiments, battalions, and companies mixed together, officers and sergeants taking for the time being command of those near them. If the time for the rush had been misjudged—if the enemy was not already practically beaten—the chances were the attack would fail even at this stage. The swarm would be stopped in its advance by an unexpected outburst of heavy fire at point-blank range, and then rolled back by a counter-attack. But this did not often happen.

Custom and tradition are very strong in regular armies, and at first there was a strong feeling against the recognition of such irregular proceedings as a necessity. It was granted that henceforth infantry fire must be a main factor in battle winning, and this granted, the firing line must be the fighting front. Artillery would engage and silence hostile batteries, shell the opposing infantry positions, and so prepare the way for the infantry. Cavalry had fared badly on the Franco-German battlefields on the few occasions where it was used, and it was thought that its chief work would be that of reconnaissance, exploration, and the screening of the march. But granted that the infantry firing line, fed from supports and reserves, must do most of the real work, there was a feeling that efforts must be made to reduce its progress to something like the old drill-book formations. An English military paper, soon after the war, actually explained that the best way to carry out the attack would be "to break up the two-deep line at, say, 1000 yards, and to bring up the fragments with intervals successively to a spot about 150 yards from the enemy, there to be pieced together again, the object being so to arrange the breaking up of the battalion when it starts for the attack that when it is put together again the fragments—aye, and each individual—may as much as possible fall into the original place." Such ideas strangely omitted any allowance for

losses under fire and the inevitable confusion of a great fight. But they found their way into official drill-books in a modified form.

Gradually sounder ideas prevailed. It was realized that with widely varying conditions of ground, set patterns of attack, based on drill-book diagrams, were out of the question. Only broad principles could have any general application. The firing line would be the fighting line. At the outset every effort would be made to establish it in an advanced position within moderately close range of the enemy, and then to keep it steadily fed with reinforcements to supply for losses, these being drawn from other lines to the rear of it, the word line being taken in the widest sense, and implying nothing like the lines of a drill-ground parade. The fire fight would hold the enemy all along the front and give the opportunity for finding out how he was placed, and then with a continual stream of fresh waves of men the front line would be carried forward at the point selected for the actual assault, this frontal attack being combined with pressure on a flank.

The defensive could give no important result unless it was the prelude to an offensive at the right moment. It had long been recognized that on the defensive troops would gain by entrenching themselves, but now it was seen that losses could be minimized in the attack also by the use of hasty entrenchments to supplement natural cover. This had been done by advancing lines during temporary halts in the battles of the American civil war, but the value of this was not realized in Europe until the problem had to be solved of carrying infantry forward from point to point under the sweeping fire of breech-loading rifles. Entrenching tools, carried in wagons or on pack animals, became part of the war equipment of infantry battalions, and as these might not be at hand when wanted, efforts were made to design lighter tools that could be carried by the men themselves.

Tactical theories were yet the subject of anxious debate

when the Russo-Turkish war of 1877-8 broke out. The event on which the fortune of the war hung for months was the defence of Plevna, a little Bulgarian town which Osman Pasha converted into an improvised fortress in the presence of the enemy. The battles round Plevna were fights for a hurriedly entrenched position—the theory of the entrenched battlefield was put to the test on a grand scale.

Russian methods of attack were still in a stage that belonged to the days before the Franco-German war. Perhaps it was from an ill-founded contempt for their opponents that the Russian generals clung to obsolete tactics. They were good enough, it was thought, to beat the Turks, and the Russian soldier need not learn the new-fangled methods when opposed to these semi-Asiatics. Attacks prepared by heavy bombardment of the hostile position were therefore made in massed columns covered by a strong skirmishing line.

The Turks, inferior in numbers and clinging to the defensive, trusted to their entrenchments and the fire of the excellent American rifle with which their infantry had lately been armed—the Peabody Martini, a drop-block action breech-loader very like the Martini-Henry of the British army. It was the rifle allied with the pick and spade that made Plevna famous in military history.

There were four battles round Plevna. The first was fought on 20 July, 1877. The Russians had invaded Bulgaria in force, crossed the Danube, and pushed an advanced column across the Balkans. To cover the right flank of the advance southwards the 9th Corps, under the veteran General Krudener, had been sent out to the westward, and had reduced the old fortress of Nicopolis on the Danube after a two days' bombardment. Krudener then sent one of his divisions under General Schilder-Schuldner to seize the Trajan Pass over the Balkans, and the first stage of his march was to be the occupation of the open town of Plevna, lying in a hollow of the hills north

of the Pass. But Osman Pasha, the Governor of Widdin, had marched eastwards to harass the Russian flank, and had halted at Plevna, where, hearing of Krudener's presence to the north of the place, he began to entrench himself, digging shelter trenches along the ridges north and south of the little town. Schilder-Schuldner attacked him on the 20th without even reconnoitring the place, and in complete ignorance of the strength of his enemy.

The Russians simply blundered into action. They had about 10,000 men on the ground, but not more than 7000 were actually engaged. Osman had about 14,000 rifles in his lines of shelter trenches. The Turks had plenty of ammunition, and used it freely. The Russians met not anything like a carefully aimed fire, but a steady shower of bullets sweeping all the ground over which they tried to struggle forward. They abandoned the attack when they had lost nearly 3000 men. The Turks had 2500 men down, thanks to the very imperfect state of their defences, which were at this stage of the defence of Plevna little more than shallow trenches with the earth thrown up into a little breastwork, behind which the men crouched or lay down, with plenty of boxes of cartridges among them to renew the supply in their pouches. They suffered a good deal from the Russian shell fire. When the attack was renewed ten days later they were better protected.

For during this respite Osman's men were digging day and night. The trenches were improved and extended, and the system of defence was further strengthened by the construction of the first of the famous Plevna redoubts. They were very rough-and-ready in design, open to criticism from many points of view. They were very small, and all of them were square, a bad outline, because men in action will as a rule fire only to their direct front, and where at each corner two fronts met at a right angle there would be opposite to the point of the angle a considerable space that would be practically unswept by fire. The ditch, dug to supply material for the rampart and form

an obstacle in front of it, was only three feet deep and six feet wide ; the crest of the rampart only three feet above ground level. On each face there was only seventy-two feet length of parapet, which means that about thirty men would be able to use their rifles. Behind the rampart a small shelter was made by upright beams supporting a roof of planks covered with earth, forming a space in which men could crouch during the bombardment that would precede an assault. Along the line of each rampart here and there was a thick earthen "traverse," a bank built up to prevent enfilade fire from a flank sweeping the line, and to limit the damage done to the garrison by shell bursts. In the middle of the work other traverses were built up to stop shells and bullets that had come over one face hitting the men holding the opposite side of the redoubt. Along the outer edge of the ditch there was a "covered way"—a narrow space to shelter riflemen standing in the ditch itself with some cover from a low bank thrown up towards the enemy. The annexed plan and section will make this untechnical description intelligible.

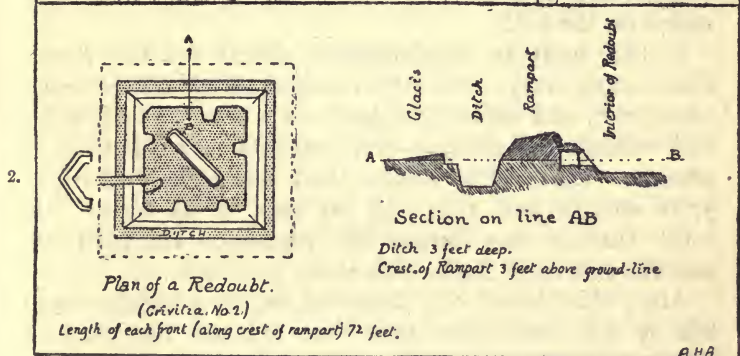
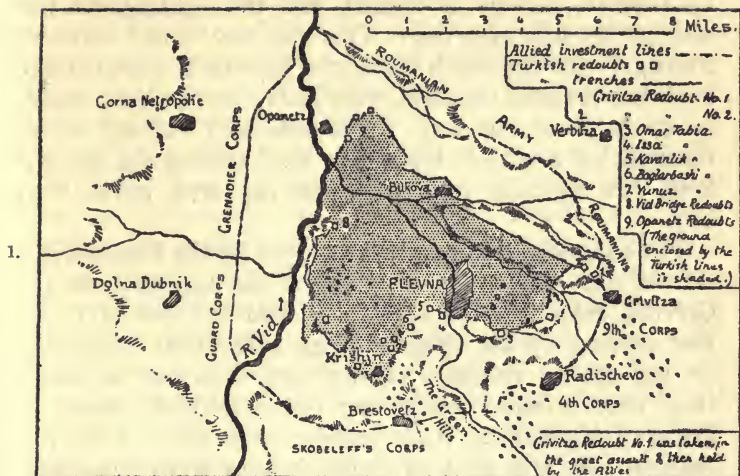
There were no obstacles to delay an enemy's advance and keep him under the fire of the defence. In the case of modern works there are always various devices of this kind employed, the most effective being the "wire entanglement"—common or barbed wire stretched a little above the ground level on lines of short posts, forming a tangle often fifty or a hundred yards across, over which it is impossible to move except very slowly and standing erect. There was nothing to stop a rush on the Plevna redoubts but the fire of the handful of defenders. Flank defence was provided only by shelter trenches. The redoubts were placed rather haphazard, here and there, on the ridges. Mutual support was not arranged for, and some of them had a very limited field of fire. One of the most famous was hidden away in long corn. In some of the redoubts room had been found for platforms for two or

three guns. These would have been better placed in gun-pits or batteries outside the works.

Only a few of these works were ready when the Russians made their second attack with Krudener's corps, a division under Schakoffskoi, and a brigade chiefly mounted under Skobeleff, on 30 July. This was the action known as the second battle of Plevna. The Russians brought up 32,500 men and 170 guns and attacked from three separate directions. Osman had 20,000 men and 58 guns in action. After a five hours' bombardment, which did very little damage, Krudener attacked. Here and there the Turkish lines were penetrated, but the Russians were in every instance driven out again by counter-attacks of the Turkish reserves. They gave up the attempt to take Plevna at last, after losing more than 7000 men. The Turkish losses were 3800, mostly incurred in the desperate hand-to-hand fighting inside the position.

The defeat paralysed the whole Russian plan of campaign. Everything else was put aside in order to crush this unexpected resistance of Osman's little army entrenched in this hitherto unknown Bulgarian village. Twenty-eight thousand Roumanians were brought across the Danube to reinforce the attack, and in all 95,000 men and 452 guns were brought up for the intended capture of Plevna. The preparations took some weeks. At last, on 6 September, all was ready. By this time Osman had 30,000 men and 60 guns in the place. It was surrounded on all sides; 3000 cavalry watched its western front. The Roumanian army closed in on the north, the Russians on the east and south. On the 7th a bombardment from hundreds of guns began and continued till the evening of the 10th. It was hoped that this would inflict heavy loss on the garrison, break their spirit, and seriously damage the defences. The Turks suffered some loss, but took it as "all in the day's work," and the slight damage done to redoubts and trenches was easily repaired by a little spade work each night.





### THE PLEVNA POSITION, 1877

1. Fortifications and besiegers' lines in the final stage of the investment
2. Plan and section of the Grivtza Redoubt, No. 2

On the 11th, after some hours of renewed bombardment, the east and south fronts of Plevna were attacked by several columns of assault, and the fighting did not end till the following day. This was the "third battle of Plevna." On the south the Turks held their own, driving back the Russian columns, with heavy loss in their ranks, at every point but one, where Skobelev's attack broke through for a while. Even this local success did not last long, the garrison recovering the captured works next day.

The only advantage gained was won by the Roumanians on the east front. They attacked the redoubts on the Grivitzza ridge, and captured and held the first of them. But moving up the ridge through a cornfield they came on the second redoubt, of the very existence of which they were unaware until they came suddenly under its fire at close quarters. After repeated attacks No. 2 Grivitzza redoubt was still held by Osman's men when the battle ended on the 12th.

It had been an overwhelming defeat for the Russo-Roumanian army—one little redoubt taken, failure everywhere else, and failure that had cost a loss of 16,000 killed and wounded, including four generals and hundreds of officers. Skobelev's column had lost most heavily—5760 officers and men, 48 per cent of its force. The total Turkish loss during the prolonged bombardment and the two days' battle was about 4000 men.

After this defeat the Russians began a regular siege, but it was only starvation that reduced the garrison. When the end came on 10 December, 120,000 men and nearly 600 guns were in the besieging lines. Osman tried to break out to the westward, but after a loss of 5000 men his starving, fever-stricken remnant of an army was surrounded and forced to surrender.

The experiences of Plevna enforced the lesson that massed attacks were hopeless against well-posted and steady infantry armed with the breech-loader, and all

the more if these were protected by even the roughest of hastily constructed entrenchments. The spade was obviously to be the best ally of the rifle in future wars. It was even argued that the battle of the future would more and more resemble a siege, the advance of the attack being made by establishing itself in line after line of hurriedly entrenched positions.

Another result of the new difficulties imposed on the attack was that soldiers began to study and later on to practise movements by night. Night attacks had been incidents of warfare in all times, but there had been a disposition to regard them as something exceptional. It was laid down in more than one authoritative work on tactics, and even in some official manuals, that night fighting was a very doubtful expedient. Mistakes and confusion were very likely to occur, the example of brave men was lost, success might be imperilled by the most trifling accidents. Now, however, the prospect of being able to approach a hostile position—bringing the troops up to close striking distance under cover of darkness without exposing them to long-range artillery and rapid rifle fire, brought night operations again into favour, and it was held that battles would be won by a night march followed by an attack in the morning twilight.

Lord Wolseley's victory over the Egyptian army at Tel-el-Kebir on 13 September, 1882, was, measured in comparison with the great battles of European wars, a minor action, but it was an epoch-making victory, not only because it was the first step in securing British control of the Nile valley, but also in its tactical aspects. It was a very perfect example of the new method of using the night march to eliminate the dangers of the earlier stages of the attack. The Egyptian army, under Arabi Pasha, some 22,000 strong, held a formidable line of entrenchments barring the approach to Cairo from the direction of Ismailia on the Suez Canal, which Wolseley had made his base of operations. The Egyptian army was not of

any high quality, but it was armed with breech-loading rifles and artillery, and an assault in broad daylight would have been a costly affair. Wolseley drew up his little army of 17,000 men in battle array, two brigades in front in line shoulder to shoulder, two more in support, the cavalry on the right, the Indian contingent on the left, the artillery massed in the centre. The advance was then made over the open desert, a naval officer guiding it with compass and by the stars. There were some anxious moments, but eventually, just as the first light of dawn began, the whole array halted within rushing distance of the enemy's works, and carried them by assault after a brief struggle. The night march of Tel-el-Kebir was the first of many such operations in the Soudan, in South Africa, and in the war between Russians and Japanese in Manchuria, but it still remains the most perfect example of this new method of attack.

There is no need to examine in detail the various battles of the minor wars in the last years of the nineteenth century. Only some leading incidents need be mentioned in connection with the great changes in armaments that marked this period.

In a space of about ten years the infantry rifle was completely transformed and became a more formidable weapon than ever. The first step was the introduction of the repeating rifle. Inventors had long been busy with projects for a rifle that would be reloaded, not by slipping in each cartridge separately after firing, but by fitting to the weapon a magazine that would hold several cartridges, so arranged that the mere act of opening and closing the breech would throw out the empty shell of that last fired and slip a live cartridge into its place. As long ago as the years before the war of 1870-1 rifles and pistols had been produced with a magazine in the form of an additional barrel running the full length of the rifle barrel and loaded up with cartridges, which a coiled helical spring forced one by one into the loading position. Such rifles were

very heavy and clumsy; as the magazine gradually emptied itself the weight and balance of the weapon was continually changing in a way that meant bad shooting. They were also easily put out of order. But about 1890 various forms of magazine rifle were produced carrying a small magazine at the breech, holding from five to ten cartridges, and there were further devices that enabled the magazine to be reloaded by one movement with the help of a clip or frame holding the necessary number of cartridges. Army after army adopted the repeating rifle, and with its adoption came the necessity of a more elaborate training for the men in fire discipline to prevent a wholesale waste of ammunition in unnecessarily rapid fire.

At the same time the researches of inventive chemists gave to the armies and navies of the world a whole series of new explosives, far more powerful than the black gunpowder that had been in use since the fourteenth century. Many of these new explosives had the further advantage that they produced hardly any smoke, the material being completely burned up and producing transparent gases, instead of the dense white and grey clouds of smoke that had so long shrouded infantry and artillery in action, blotting out their view of the enemy, and at the same time revealing their own positions. These new explosives, after much experimental work, were adapted to use as propelling charges for rifles and cannon, and bursting charges for shells.

Another important change was made in the new rifles. The bore was invariably made smaller than in the old single-loader types. Thus in the British Army the Martini, with its bore of .450 (nearly half an inch), was replaced by the Lee-*Metford* magazine rifle with a bore of .303, or less than one-third of an inch. This not only enabled a larger quantity of ammunition to be carried by the soldier, but influenced the flight of the bullet. The smaller diameter meant a greatly decreased air resistance, and this, com-

bined with the greater driving power of the new explosives, gave a higher velocity, a longer range, and a flatter flight. With the new rifles the "fixed sight," or point-blank, range rose to 500 or 600 yards, as compared with the 200 yards of the older weapons. In other words, in firing at objects up to this distance the bullet nowhere rose above the height of a man, and for 600 yards in front of the firing line the ground was swept by the fire. The new rifles could be used against a large target, such as a closed column of troops, over a mile away.

There was a corresponding increase in the effective range and accuracy of fire of artillery, and the projectile could be rendered more destructive. Efforts were successfully made to increase the rapidity of fire, and the "quick-firing" gun came into use in various forms. It was really a "quick-loader," with arrangements that obviated the necessity of relaying it on the target after each shot. The quick loading was secured by simplifying the breech action and making up the shell and charge in a huge cartridge with a metal case. But the other features of the new guns were even more important. Hitherto in field batteries in action much time and heavy labour had to be expended on bringing the guns back into position after the recoil on firing, and relaying them on the target. The devices for eliminating this work were (1) means of fixing the gun-carriage to the ground; (2) devices for allowing the gun to recoil in a slide or trough without moving the carriage that supported it, the recoil compressing springs or rams, and the force thus stored running the gun back into the original position. The new guns, with well-drilled gunners, could fire twenty shots to the minute, and there would be four or five shells in successive flight from them all in the air at the same time.

Machine guns had at the same time been greatly improved, the type most widely adopted being the American Maxim. They were no longer regarded as artillery weapons or pitted against cannon. It was recognized that they

represented a mechanical system of grouped rifle fire, concentrating a stream of bullets on a special target.

Further progress was represented by the use of indirect fire from hidden guns ; the use of heavy guns of position and howitzers for the attack and defence of positions in the field ; the use of captive balloons for observation ; and a great development in the art of transmitting orders and information by wire and by various kinds of signalling.

Armies were increasing in their effective strength on both the peace and the war footing, and armaments becoming more complex and formidable every year, and still the great nations remained at peace, and tactical theories were worked out on paper or at the annual manœuvres, while the most diverse conjectures were made as to what battles would be like with smokeless powder, repeating-rifles, quick-firing guns, and the free use of cover and entrenchments on both sides.

Cover and entrenchments there must be, and cover had become a more difficult business. The new rifle bullet could bore its way through a tree, riddle a barricade of planks, and penetrate a bank of earth that would have stopped the older projectile. Defence against shrapnel fire had also become more important as artillery became more deadly in its work. Head cover was a feature of many of the new schemes of field fortification, and the artillerists themselves began to fit steel shields on their guns. But peace experiments showed that in one respect the new inventions helped the combatants to protect themselves. The cloud of powder smoke no longer marked the positions of infantry and guns in action. Troops clad in dull grey or brown, lying down or crouching behind even slight natural cover, did not betray their position by their fire, and were almost invisible. Reconnaissance became more difficult, and much of the picturesque glow and glitter disappeared from war in the systematic efforts that were made to secure this invisibility.

The new repeating rifle was first used against single-

loaders by the Constitutional army against the Balmacedists in the battles of the Chilian civil war of 1891, and the possession of the repeaters secured the victory for the popular party. Quick-firing cannon were first brought into action by a semi-barbarous army, that of Menelek of Abyssinia in his victory over the Italians at Adowa on 1 March, 1896. This was another epoch-making battle. It marked the end of the long period in which scientifically devised weapons had been the monopoly of the white nations, and had given them easy conquests over the darker races. There was soon to be a still more serious warning of coming change in the victory of the Japanese over the Russians, the first great success of Eastern over Western arms for many centuries.

The event of the war between the United States and Spain in 1898 was decided mainly by naval operations. There was comparatively little fighting on land, but in the battle of 1 July, before Santiago, there was a new revelation of the power of the rapid-firing rifle used from an entrenched position. The Spaniards were armed with the Mauser, a small-bore, clip-loading magazine rifle using smokeless powder. The American regulars who did most of the fighting had the new Krag-Jörgenson repeater; the volunteers the old Springfield single-loader. This rifle used black powder, and during the battle a regiment was withdrawn from the firing line because the smoke cloud above it marked its position too clearly and made it a target for concentrated hostile fire leading to useless loss. With the smokeless powder the American regulars found it fairly easy to take cover in the broken ground and bush before the Spanish lines up to a range of about 500 yards, beyond which there was open ground and progress was slow and costly. The heaviest fighting took place before the fortified village of El Caney, which the Spanish garrison, under General Vara de Rey, had surrounded with shelter trenches. In front of these trenches were wire entanglements. The village church roof was occupied by riflemen



behind sandbag breastworks, and other sharpshooters were posted in the tree-tops. The Spaniards held the place with a little over 400 men, and had no artillery. The attack was supported by a four-gun battery of breech-loading field pieces.

It was expected by the American staff that the place would be rushed in a couple of hours. But though it was attacked soon after sunrise of a summer day, it was not taken till late in the afternoon, and only at the cost of bringing no less than eight battalions into action against it, battalions of the most thoroughly trained soldiers in the world. More than half the garrison had fallen, and most of those who remained were wounded when at last the trenches were stormed. It was a startling revelation of the power of the repeating rifle, but strange to say its significance was grasped by few, and the effects of the same rifle in the hands of the Boers a little later came as a surprise to most people.

This South African war, the military event with which the century closed, was the first conflict on a large scale in which both sides were armed with the new smokeless rapid-firing rifles. The Boers had the Mauser, the British the Lee-Metford. The English army brought a numerous artillery into the field, but until a late stage of the war had no quick-firing guns. The Boer artillery was much less numerous; from first to last they had only a few guns, and these were of various types. They included a number of quick-firers using smokeless powder. At the outset it had been predicted confidently that the Boer irregular levies would find their few cannon more of an encumbrance than a help; that the presence of the guns would hamper their movements and their action on the battlefield by tying them down to fixed positions, and that they would not be able to use them effectively. It was a surprise to find that, probably from their traditional skill in handling and moving the heavy veld wagons over difficult ground, where the roads were mere tracks and the river crossings

fords approached by a steep descent on either side, they were past-masters not only in moving their lighter guns, but also ponderous long-ranging fortress guns which they brought to the front from the defences of Pretoria. To meet these the English mounted heavy naval guns on travelling carriages, and one result of the Boer war was that henceforth in all armies it was recognized that much heavier artillery could be brought into the field.

There were other surprises in artillery matters. Much had been expected from the use of British howitzer batteries throwing a heavy shell charged with the high explosive known as "Lyddite." The Lyddite shells were expected to act like projectile mines, causing widespread and terrible destruction where they fell and burst. There was much alarm at the outset in the Boer ranks at the reports of what this new weapon would accomplish. But the actual results were disappointing. It would seem that the very intensity of a high explosive is due to the force it exerts being concentrated within narrow limits, and the bursting of a Lyddite shell, even when the detonation was complete, did not effect much more destruction than a heavy shell charged with the old powder.

Yet another surprise was to find that the English batteries were outranged by the heavy Boer guns of position and the new quick-firers. The English artillery had its shells fused for ranges calculated on the ordinary experience of the scope of clear vision in northern climates. It had not been foreseen that they might have to engage guns in action at 5000 or 6000 yards. It was the naval guns with their superior range that saved the situation.

But the main interest of the battles in South Africa turns upon the infantry fighting. The Boers were mostly irregular mounted infantry. The mounted infantry man is a soldier who uses his horse merely to carry him to and from the point where he dismounts to fight. They were roughly organized in locally raised bodies known as "commandos," the officer in charge of each being known as the

“commandant” and his subordinate leaders as “field-cornets.” In a regular body of mounted infantry the men work in fours: three dismount for the firing line, and the fourth man looks after the horses. The Boer horses and ponies, trained for hunting, would stand where they were left, and every rifle could be put into the fight, but the fact that they had a lot of their mounts waiting behind the fighting front often made the Boers anxious for their line of retreat and very ready to give way under the menace of a flank movement. They had an abundance of black labour in their camps, and as these men were used to mining and field work they were able to entrench a position very rapidly, and the leaders had evidently studied this branch of soldiering to good purpose. Once more spade and rifle were effectively combined. But the weak point of the Boer levies was that they were best suited, especially in the earlier stages of the war, for defensive tactics. They showed little energy in the attack. They had no bayonets, and this alone prevented them from being ready to close with regular troops armed with cold steel. But on the other hand, they used their rifles to such effect that it was very rarely a bayonet charge could be pushed home against them.

In the earlier battles (such as Talana Hill, Elandsplaagte and Rietfontein in Natal, and Belmont and Graspan on the eastern frontier of the Orange Free State) the Boers took up positions on the crests and upper slopes of the rocky ridges or the flat-topped hills that rise from the level of the veld. During centuries of warfare high ground had been regarded as strong ground for the defensive. All these battles were British victories. The elevated positions of the Boers made them good targets for artillery fire, and when the infantry attack was pushed home, though there was considerable loss, it was loss caused by a plunging fire. But presently there came a change in the Boer tactics, the significance of which was not grasped at once.

They learned an important lesson from their experiences at the battle of the Modder river. The relieving force marching northwards along the line of the railway to Kimberley, that followed the east frontier of the Free State, had driven the commandos from the Belmont and Graspan kopjes, and after these two victories felt assured of further success. On the morning of 28 November, 1899, the British column was advancing across the level plain through which the Modder river runs a few miles south of Kimberley. The Boers had blown up the railway bridge over the river, and after Graspan had retired to its north bank. But it was not expected that they would be able to make any serious stand against a superior force of regular troops on this stretch of open veld. It was thought that they would hardly venture to fight unless they had a line of rocky ridges and kopjes to serve as a rampart against the British attack. Away some miles to the north beyond the river were the Magersfontein and Spytfontein kopjes. It was expected that it was there the Boer leaders would offer battle before abandoning the siege of Kimberley.

Lord Methuen, who commanded on the English side, had with him about 9000 men, including the Guards Brigade. He had three batteries of field artillery and four naval guns.

But the Boer leaders, Cronje and Delarey, had decided to risk a fight at the river. After the battle it was estimated that their commandos were at least 8000 strong. Their actual fighting force was 3500 rifles and two guns, modern quick-firers. It was the South African summer, and the river was at its lowest, running in the bottom of a broad trough it had worn for itself in the level veld. Clumps of trees marked its course, and near the wrecked railway bridge was a hotel and a few houses. Here the Boer guns were posted in the centre of the line. The riflemen were partly in the river bed, using the south bank as a natural shelter, partly in trenches along the top of the north bank. The

hollow of the river itself formed a gigantic natural trench and a means of passing reinforcements and ammunition under cover along the front, which was about two miles long.

The Boers revealed their presence by firing on and driving in the advanced cavalry patrols. The naval guns were then brought into action against the houses, and the infantry deployed. It was still believed that there was only a handful of Boers at the river crossing and that they would be easily turned out. But as the infantry, deployed in successive lines, pushed forward, a heavy rifle fire opened all along the front. Not a Boer was visible, at first no one was quite sure on which side of the river the enemy was, but the fire grew in intensity till, as the foremost lines of the advance reached a distance of about 600 yards from the trees that marked the course of the river, a hail of lead was sweeping along the ground. The order was given to lie down, and an effort was made to beat down the enemy's fire by replying to it with rifles and artillery. The Scots Guards had tried to bring their Maxim gun into action, but before a shot could be fired every man dropped dead or wounded around it, and everyone who approached it was shot down. For long hours there was no further progress. The men fired till their pouches were empty. To rise to go forward was to be knocked over by a bullet. So they lay under the scorching sun, without food or water, and later without ammunition, while the bullets of the unseen enemy whistled over them in showers. All the while the artillery thundered. The Boer guns had been silenced. Only now and then a little quick-firer sent a shower of small shells here or there. The expenditure of ammunition fired vaguely at the river line, or the places where the river was supposed to be, was enormous. The gunners fired off 3000 shells, or about sixteen tons of shrapnel. The Coldstreams fired 128,000 rounds, the Grenadiers 82,000. But most of the shells and bullets were expended on the veld without finding a living target. The total loss of the Boers was under 200.

A striking description of the experiences of those who lay out on the plain during the ten hours' fusillade was given in a letter from an officer of the Guards. He wrote :

" We were on a perfectly flat open plain, the enemy being entirely hidden among a fringe of trees. All we could do was to lie flat down, fire when we could, and await orders. But no orders came the whole day long. Although thus lying flat down you would be surprised how tired we got. One longed to get up and walk about, yet every time anyone moved the bullets began whistling all round him. After lying for a long time without receiving either orders or news, we all jumped up together, ran a short distance, about twenty yards say, and then fell flat at the word '*Down.*' Then came the shower of bullets, just too late. Finding no one else seemed inclined to go on, no visible sign of an enemy, and the trees perhaps still five hundred yards off (though some of the enemy seemed to be nearer), we stayed here for some hours, digging little shelter pits with our bayonets as we lay. The heat of the sun was awful, and we longed to know what was going on and what ought to be done. A machine gun stood deserted in front of us, all the detachment having been killed and wounded."

This gives an impression of the paralysis that came upon the frontal attack on the open, shelterless plain under the storm of fire from unseen enemies. It was a new experience in war. Everything seemed to have come to a deadlock. It was late in the day that a flanking party on the left got across the river, and when the firing ceased at sunset it was announced that the position would be rushed from front and flank at dawn. But the Boers abandoned it in the dark, retiring to the Magersfontein ridges. The British loss, 475 killed and wounded, was not as heavy as might have been expected. It was not actual loss stopped the advance, but the unexpected difficulty of a situation for which no provision had been made, and an exaggeration of the enemy's force due to the impression given by their rapid fire.

There was a new surprise when the Magersfontein position was attacked. The Boers had profited by their experiences at the fight on the Modder. It was believed by Lord Methuen and his staff that, as on previous occasions, the enemy would hold the high ground, and the attack on the Magersfontein position on 11 December was preceded by a two days' bombardment of the ridge. Those who watched it from the English lines thought that nothing could live under the rain of bursting shells, and that the enemy must be suffering heavy loss and be badly shaken. As a matter of fact there was hardly a Boer on the heights; the loss was a mere trifle, and no impression whatever was made on the enemy by this enormous expenditure of ammunition.

The Boers had dug their trenches not on the Magersfontein ridge, but on the plain at its base and to its left front. They had learned at the Modder river that a sweeping fire across level ground was much more deadly than a plunging fusillade from the tops of the kopjes. It was a lesson that might have been learned from the experiences of the Germans in France some thirty years before. It will be remembered that we have already noted how at the Spicheren Berg on 6 August, 1870, the Germans climbing the face of the ridge, where they had to sling their rifles and use hand and knee to eke out the footholds, suffered a comparatively small loss, while the Prussian Guards attacking on 18 August at St. Privat were swept away in thousands as they went up the gentle open slope from Ste. Marie aux Chênes.

The attack on Magersfontein in the night between 10 and 11 December was planned on the lines of Wolseley's advance at Tel-el-Kebir—a march under cover of darkness, and a dash into the enemy's lines with the bayonet just as the dawn came. But it ended in disaster. The Boer trenches were in advance of the heights where the enemy was supposed to be. The trench guard was on the alert, and before they deployed for the attack the regiments

of the Highland Brigade which led the advance were riddled with a sudden blast of fire, by which they suffered heavy loss, including the death of their gallant leader General Wauchope. After this first failure the attempts to force the enemy's position in broad daylight were all repulsed, and at last the effort was abandoned after nearly a thousand men had been killed and wounded.

In the same week General Gatacre's attack on the Boers' position at Stormberg in the north of Cape Colony was defeated, the column losing its way in the dark and coming suddenly under hostile fire. Two days later came the defeat of General Buller and the Natal army at Colenso, a failure to force the crossing of the river Tugela against Boer riflemen entrenched along the river bank and sweeping the plain with their fire. It was estimated that the enemy's force was 10,000 men, perhaps even 15,000. But Louis Botha, who commanded, had only 4000 rifles in the trenches and a few guns on the heights above the river.

These three defeats marked the "Black Week" of December, 1899. After this Lord Roberts and General Kitchener were sent to South Africa, and a stream of reinforcements from England and all parts of the Empire placed at their disposal the largest British army that had ever yet taken the field. The tide of battle turned against the Boers, but between the two stages of the relief of the besieged places and the occupation of Pretoria and the guerilla warfare that followed, the struggle was prolonged until the summer of 1901. Faced with novel and unexpected, or unrealized, conditions of warfare, methods were adopted by the English leaders that gave a new aspect to the battlefield. At the outset all the troops had been dressed in khaki, a colour that lent itself to concealment on the burnt-up African veld, and among the broken ground of spruits and kopjes. After the heavy loss of officers in the earlier battles all marks of rank were abolished, buttons and buckles were dulled, officers no longer wore the sword in



action. In the attack formation exaggerated deployments were adopted, the advance being made in successive lines of men strung out at very wide intervals. In the firing line ten paces was often the distance between man and man, so that a couple of hundred rifles covered more than a mile of front. There is no doubt that such thin firing lines were a mistake. They minimized loss, but at the same time they reduced the fire power of the attack in the same proportion. These attacks were frequently successful, it is true, but their very success was misleading. They were delivered against enemies who were all but incapable of a counter-attack, clung strictly to the defensive, and rarely held a position with any determination once their flanks were even menaced. Several of the so-called battles in the advance on Pretoria were on the part of the Boers mere delaying or rear-guard actions. The Boers stuck for a while to their trenches under artillery and rifle fire, suffering only slight loss from the few rifles of the long extended firing line. This was prolonged till it overlapped both flanks, and then the Boers gave way without waiting for the assault to be pushed home. A regular army would have met the threat against its flanks with vigorous counter-attacks, and compelled the attack to bring a much stronger force into action and incur heavy loss.

The use of entrenchments on both sides, the full advantage taken of all natural cover, the dull dress of the combatants, the use of smokeless powder, all made it extremely difficult to distinguish the actual positions of the firing lines, especially on the defensive. German critics spoke of the "apparent emptiness of the battlefield" as a new and puzzling feature in war. Officers and men went through many battles without being able to say they had ever seen the enemy to whom they were opposed. The Boers were remarkably clever in taking advantage of the new conditions of war. Easily visible entrenchments were thrown up and left unoccupied to divert hostile fire from carefully concealed trenches near by. Guns firing smokeless powder

were moved from point to point, and their position further concealed by firing off a small charge of black powder a hundred yards to right or left as the concealed gun opened fire. The small number of guns in action made these ruses easier. There was hardly any bayonet fighting. Very few of the Boers had bayonets. When they surprised and rushed a position they fought by firing at close quarters, "snap-shooting" as they ran forward. They invariably gave way before the menace of a bayonet attack. Rash critics of the war said the bayonet had become useless. Even at close quarters men would fight henceforth with the bullet only. This, with many other hasty conclusions from the South African war, was abandoned in the light of what happened on the battlefields of the Russo-Japanese and Balkan wars.

But from the experiences of South Africa certain reliable conclusions were derived: the importance of entrenchment on the modern battlefield, the deadly power of the repeating rifle, the necessity of combining a flank with a frontal attack in the advance against positions held by men with modern weapons, the new difficulties of reconnaissance, the decreased importance of high ground, the possibility, and even the necessity, of bringing into the field much heavier artillery than had yet been attached to armies except for siege purposes. It was recognized that the operations of the battlefield with regular armies engaged on both sides would assimilate to some extent to the siege of a fortified position. The entrenched battlefield had become a normal feature of war.

## CHAPTER XV

### BATTLES OF THE TWENTIETH CENTURY

THE South African war ended in the first year of the twentieth century. Its events had been followed with close interest by the military experts of many nations. Its salient lessons were the effectiveness of rifle fire with the modern small-bore repeating weapon ; the employment of heavier artillery in the field ; the efficiency of the quick-firing gun ; the difficulty of reconnaissance and even of watching the development of a battle now that smokeless powder had come into general use ; the necessity of field entrenchments both in attack and defence ; and finally, the advantage to be derived from the use of mounted infantry. The experiences of the war added to the long record of the failures of cavalry to break steady infantry, or even to get anywhere near them in the face of modern rifle fire, led to a very general acceptance of the view that in the wars of the future cavalry would chiefly be used as a kind of more highly trained mounted infantry ; that it would no longer charge with the sabre or lance, but trust to the effect of fire-arms in dismounted action. But there were still champions of the mounted arm who rightly held that cavalry, well trained and well led, would find opportunities for shock action even against guns and infantry on future battlefields, though even these admitted the necessity of its being also carefully trained for dismounted work.

Another theory that found not a few supporters was a rash conclusion from the events of South Africa. It was

said that the bayonet had become a useless weapon ; that the soldier would henceforth drive his opponents back by mere fire effect without any occasion for advancing to the actual contact of the bayonet fight. The first great war of the new century showed how little foundation there was for this view. There was some desperate bayonet fighting on the battlefields of the Far East in the Russo-Japanese war.

It was the first great war for many centuries in which an Eastern people met and defeated the armies of a European Power, not in one solitary "disaster" afterwards to be redeemed and avenged, but in a succession of great conflicts, and in the decisive battle of the war. Japan had within the short space of half a century learned the arts alike of peace and war from Europe and America. In the days of the Crimean war, when after a systematic isolation for more than two hundred years the first steps were taken towards opening trade with the white races, the armies of Japan were still made up of the levies raised by feudal chiefs whose followers were warriors clad in quaint armour, with grotesque masks for visors, and armed with matchlocks, bows and arrows, swords, pikes, halberds and three-pronged spears. But the Japanese armies that fought in the great war with Russia were raised and organized on the model of those of continental Europe, and equipped with weapons of the latest type, the quick-firing artillery, the repeating rifles and the high explosive shells with which they were provided being all the inventions of Japanese scientists and mechanics, and manufactured in Japanese workshops and arsenals.

In 1894-5, in the war with China, Japan had won an easy victory. Even then it was recognized that she had a wonderfully trained army led by highly educated officers, but the significance of her success was underestimated on account of the hopeless inefficiency of the Chinese military forces. In 1900, when a Japanese division co-operated with the troops of the European Powers in the

march on Peking, all who saw the Japanese troops were struck by their soldierly qualities. But when war was declared against Russia there was a very general impression that this Eastern army would meet more than its match in the soldiers of the Czar. Europe found it difficult to believe in the victory of an Eastern over a Western army. But on the battlefields of Manchuria and in the trenches before Port Arthur the tradition of centuries was reversed.

It was the first great struggle between vast armies organized and trained on scientific lines, and armed with the latest of modern weapons. For years soldiers and students of war had been endeavouring to forecast the character and conditions of a great battle fought between huge armies using rapid-firing rifles and artillery, and with the field of fight no longer veiled in clouds of smoke. The South African war had thrown some light on the problem, but its greatest battles were small affairs compared to the anticipated clash of hundreds of thousands. On one point the experts were fairly agreed. The spade and pick would be only second in importance to the rifle and bayonet. Great battles would be something like sieges, inasmuch as both sides would entrench themselves elaborately, the defence making naturally the most complete use of this method of strengthening its positions. And the great battles of future campaigns would no longer be decided between sunrise and sundown. They would last for days. The necessity of minimizing exposure to fire would give an increased value to operations under the cover of darkness, and battles would not end with sundown, but go on day and night. The opposing fronts would extend for enormous distances, with the further result that turning movements or the reinforcement of a threatened flank might entail the march of large bodies of troops during several successive days.

These forecasts were amply verified in the decisive battles of the Manchurian campaign.

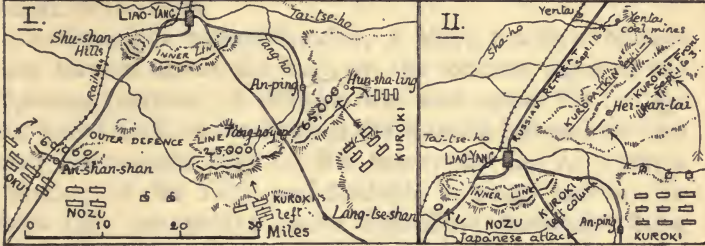
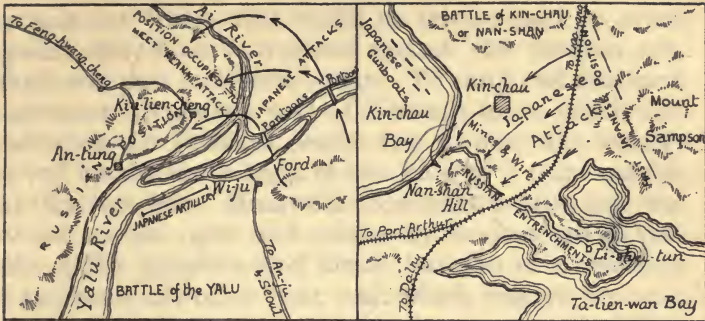
The earlier battles of the war, fought before Japan had put forth her full strength, and before Russia had been able to accumulate a great army in Manchuria, were on a smaller scale, but even in these larger armies were engaged than fought in many of the famous battles of Frederick the Great, Napoleon and Wellington. As typical battles of the war we may take the battles of the Yalu and of Nanshan in its earlier stage, and the battles of Liao-yang and Mukden in its later and decisive phase.

The Yalu river forms the boundary between Corea and Manchuria. When the 1st Japanese Army under Kuroki invaded Corea in the spring of 1904, the Russian forces in the north withdrew across the river and occupied an entrenched position on the heights of its north bank, with head-quarters at the town of Ku-lien-cheng. The main army under Kuropatkin, after providing a strong garrison for Port Arthur, was assembling on the Manchurian railway at Liao-yang and Mukden. The fighting powers of the Japanese had been so underrated that it was considered that the 30,000 men left with General Sassulitch on the Yalu river could stop the invaders for a considerable time. In the light of later events, we now know that it would have been sounder policy to use Sassulitch's forces merely as a rear-guard falling back before Kuroki's advance, fighting a series of delaying actions.

Sassulitch had to hold a front of about twenty miles. He had not enough men for it, and he was weak in artillery. Kuroki employed more than a week in his preparations for the forcing of the river crossing. All along the Japanese front elaborate measures were taken to conceal the movement of troops and the positions taken up by them. Screens of foliage on bamboo framework were erected to mask the roads. Those leading directly towards the Russian position were in places sheltered under arcades of foliage. The howitzer batteries were concealed behind high barriers covered with branches. Behind these screens the howitzers and long-ranging heavy guns were massed opposite the

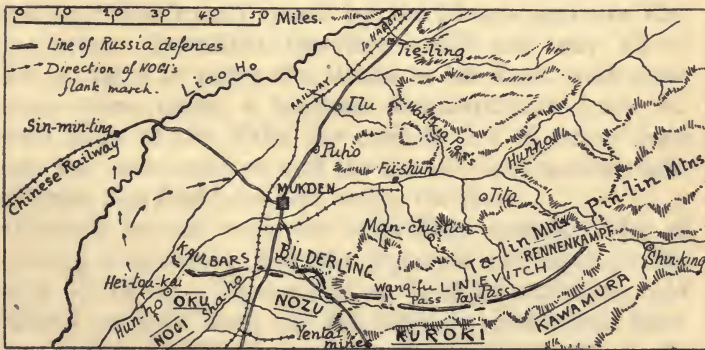
Crossing of the YALU.

KINCHAU (OR NANSHAN)



BATTLE OF LIAO-YANG

- I. Attack on the Russian outer line of defence. KUROKI turns the left flank
- II. Attack on the inner line. KUROKI's attempt to cut off the Russian retreat



BATTLE OF MUKDEN

Positions at the beginning of the battle.—KAWAMURA and KUROKI attacking the Russian left in the hills.—NOGI preparing to turn the right in the plain of the Liao-ho

Map of the Tambourézé Tract, showing the boundaries of the various estates and the positions of the principal towns and villages.



Map of the Tambourézé Tract, showing the boundaries of the various estates and the positions of the principal towns and villages.



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Russian front, and in a position where they could also enfilade any troops that might be thrown back to guard against the flank movement against the Russian left, which was part of Kuroki's plan. To carry out this flank movement the greater part of Kuroki's force, which outnumbered the Russians nearly two to one, was secretly moved up the south bank of the Yalu to a point outside the Russian left. Meanwhile Sassulitch's attention was riveted on his right and centre by demonstrations not only of the Japanese land forces, but also of a squadron of gunboats and other light craft which entered the wide mouth of the river.

In the night before Sunday, 1 May, pontoon bridges were thrown across the Yalu on the extreme right of the Japanese position. A division was sent across the bridges and found itself on the flank of the Russian left and divided from the heights held by the enemy by the Ai river, a tributary of the Yalu, and fordable in many places. To meet this unexpected move Sassulitch hurriedly flung back guns and men to hold the heights that rise from the right bank of the Ai. The Japanese batteries were now at work all along the original front. Towards the river mouth the flotilla was in action, and a feint was made of crossing for a frontal attack by the islands opposite Kulieng-cheng. Sassulitch therefore could use only about half his force to parry the stroke at his flank, and these troops came under a howitzer bombardment from the south bank of the Yalu, the enfilade fire of heavy guns from the same quarter, and the fire of the Japanese field batteries that had been sent across the river.

Covered by this cross fire of artillery and the rifles of a strong skirmishing line, the Japanese advanced to the fords of the Ai. They came on in dense columns, and suffered severely from the fire directed upon them from the heights. European correspondents who watched the attack were doubtful if white soldiers would ever have got across the fords under such a fire. It was a first proof

that conditions which apply to the soldier of the civilized Western nations are not necessarily verified in the case of peoples who have more recently adopted European ideals in peace and war. The European soldier is primarily a man of peace, specially trained to arms—and at the present day only following the soldier's vocation for a while. He has not the reckless, half-savage fighting spirit of races to whom war is a part of their life, or of the old-time professional soldier who was under arms from boyhood to old age. He has an educated knowledge of what wounds mean; he is ready enough to risk his life, but has no particular wish to be killed in battle; he even dislikes instinctively the mere act of killing at close quarters. He does not so much mind firing on an enemy, but until he is roused to a pitch of unusual excitement he shrinks from slaying with cold steel. It is a well-known fact that lancers are reluctant to use their weapons in pursuit against, at any rate, a white enemy.

The Japanese had lately emerged from the old feudal life of centuries, from a time in which for many families the sword was the only bread-winner. They had still the old fighting spirit in its full degree. They had no hesitation about slaying or being slain, and for the men of the Samurai caste there was an actual desire to fall in battle. They were therefore certain not to be deterred by losses which would shake the dash out of most men of an older civilization. It was the training imposed upon them by their officers that on many occasions prevented them from recklessly and uselessly throwing away their lives. On sea and land there were always more volunteers for a desperate enterprise than could possibly be employed in it.

So at a heavy cost the fords of the Ai were rushed and the heights attacked. In the assault of these an extended covering line was used, but closed bodies pushed up behind it. Japanese dash was met with the dogged impassive courage that characterizes the Russian, and at

various points there was hand-to-hand fighting with the bayonet. In this the activity and traditional skill at arms of the Japanese gave them a decided advantage.

A second division<sup>1</sup> was pushed in behind the first. A third crossing lower down worked its way along the Yalu bank and rolled up the Russian front. Some 50,000 men were now closely engaged with not more than 20,000, and though the Russians made a brave fight the day was lost, and all that Sassulitch could do was to secure his retreat towards the hills that divide the Yalu valley from the great plain of the Liao.

General Oku and the 2nd Japanese Army fought the battle of Nanshan, or Kin-chau, on 26 May under particularly difficult conditions in order to obtain the mastery of the isthmus, only three miles across at the narrowest part, which forms a kind of bottle-neck to the Port Arthur peninsula. The battle was the prelude to the famous siege.

The Russians had elaborately entrenched and heavily armed a position running from sea to sea—from Nanshan Hill on the bay of Kin-chau to the heights of the Li-shu-tun peninsula on Ta-lien-wan Bay. The ground in front of the works was covered with wire entanglements and mined in places. There were searchlights to guard against a night attack, and the Chinese walled town of Kin-chau was held as an advanced post.

As a preliminary to the attack on the fortified lines, Oku bombarded the town and the works from the heights

<sup>1</sup> The Japanese army has not any army corps organization. It is organized in divisions which on the outbreak of war are grouped into a number of field armies. The divisions are not of equal strength as in European armies. They vary in numbers from 10,000 to 25,000 men. This is done on purpose to make it more difficult for an enemy to estimate the force against him. In a European war spies or prisoners will often supply information by which it is easy to discover how many corps or divisions are in a given district, and this known one can estimate the effective force. With a Japanese adversary the calculation can only be made on the basis of much fuller information.

of Mount Sampson. Kin-chau was stormed, and then the attack on the lines began. A gunboat flotilla co-operated on the waters of Kin-chau Bay—the depth was not sufficient for large ships to come within range, but these light craft assisted in the bombardment of the Russian left.

Japanese contempt for death was strikingly shown in an early episode of the assault. Volunteers were called for to advance over the mined ground and lead the Russians to explode the buried charges. A crowd of heroes dashed forward, but the sacrifice of their lives was not required. The rain of the preceding days had washed the covering earth from the connecting wires of the mines, and the volunteers were able to cut these and render the electrical fuses and the explosives harmless. Most of these plucky fellows were killed at the head of the assault that promptly followed.

There were ten successive attacks, of which the first nine were repulsed with heavy loss. Under cover of the artillery a strong firing line was thrown forward against the left and centre of the Russian front, and through this line dense masses of stormers were flung against the Russian works. Only men of the thorough fighting spirit of the Japanese soldiery could have made and repeated such attacks. The correspondent of *The Times* tells what he saw when two battalions dashed forward from the Japanese right through a ruined village and up the slope beyond to assault the enemy's left :

“ At first the straggling walls of Mauchiaying give them some cover, under which they have a moment's breathing space. Then the gallant little infantry press on again up the breast of the slopes of the Russian position. It is an almost impossible task. As yet the defenders are not sufficiently shaken. An avalanche of concentrated fire from the infantry in the trenches, the machine guns in the Russian works, and the quick-firing field artillery supporting the defences strikes the Japanese full. They melt away from the glacis like solder before the flame of a blow-pipe.

A few, who seem to have charmed lives, struggle on till they reach the wire entanglements. It is a vain, if heroic, effort. Wasted within fifteen minutes, these two battalions cease to exist except as a trail of mutilated bodies at the foot of the Russian glacis."

The tenth attack, which carried the position late in the day, was a combined advance against the front and the extreme left flank, the flanking column wading breast high through the shallows of Kin-chau Bay to turn the works, their advance being protected by the fire of the gunboats.

After these earlier experiences the Japanese made much greater use of the extended order in their attacks, and the attempt to rush a hostile position at any cost with dense masses of assailants was the exception. As fresh armies were mobilized and transported to the mainland of Asia and the Russians received reinforcements for their main army, the numbers engaged in the later battles were much greater than in these earlier combats. Kuropatkin, the Russian generalissimo, was playing a waiting game. He concentrated all his available force on a double line of defences in front of Liao-yang, a large town of about 60,000 inhabitants, at the point where the roads from Corea and Port Arthur meet. Defeated at Liao-yang, he fell back on Mukden, and during the winter of 1904-5 the two armies were entrenched facing each other on prolonged lines of defences south of the city. Before the close of the long Manchurian winter the Japanese attacked and carried the lines of Mukden. This was the decisive battle of the war, and the greatest battle recorded in history.

Neglecting minor engagements, which in earlier wars would have ranked as great battles, we may take the two great fights for Liao-yang and Mukden as typical twentieth-century battles. To describe either of them fully would require a whole volume. We must be content to analyse the general course of each of these great battles, and then note some characteristic points in the fighting.

The first shots in the battle of Liao-yang were fired on

23 August, 1904. The fighting ended on 3 September. The great battle lasted therefore for twelve days.

The fighting began on a front of forty-five miles. Marshal Oyama brought into action three armies under Generals Kuroki, Nozu and Oku, with an aggregate force of nearly 200,000 men and 600 guns. Kuropatkin had to oppose them a force of from 160,000 to 180,000 men with 572 guns holding carefully entrenched positions. He had two lines of defence. The inner line lay along the Shu-shan hills, which form a kind of natural rampart immediately south of Liao-yang. The outer line, which had its centre about twenty miles south of the city, lay along another curving line of hills, which he occupied with 150,000 men. Foreseeing turning attacks by the Japanese, he made his right and left particularly strong. On the right the An-shan-shan hills, across which run the road and railway to Port Arthur, were held by 60,000 men. A gap between these hills and the centre was watched by regular and Cossack cavalry. The Kao-feng-shu hills in the centre were held by 25,000 men. The Tang-ho heights on the left were held by 65,000 men.

Oyama sent two of his armies against the Russian right. Nozu attacked in front, Oku partly in front and partly by a turning movement against the extreme right. Kuroki's army, which seems to have been stronger than either of the other two, was directed against the centre and left. He advanced in four columns. One of these demonstrated against the centre, the three others attacked the Russian left.

The fight for the outer line of defences lasted six days (23-28 August). The decisive move was made by Kuroki on the night of 25 August, when by means of an attack in the darkness one of his columns gained a footing on the Tang-ho hills, driving in the centre of the Russian left. The extreme left was thus almost isolated, and next day the heights on this side about Hu-sha-ling were stormed and eight guns taken. Kuroki was thus in a position to

roll up all the Russian left and centre by pushing the advantage he had won, and at the same time Oku was working round the other flank. Kuropatkin ordered a general retirement on the inner line of defence—the Shu-shan hills—and during the 27th and 28th the Russians were fighting only to cover this movement.

When this was effected the Russians were concentrated on a line of about twenty miles along the Shu-shan hills, with both flanks thrown back so as to rest on the Tai-tse river. During the next three days Oku attacked the Russian right, Nozu the centre, and Kuroki's left column was sent against the Russian left. These attacks, though hotly pressed, were meant chiefly to keep Kuropatkin occupied while a bold stroke was attempted against his line of retreat in the hope of making Liao-yang a Sedan for the Russian army. Kuroki concentrated the other three columns of his army in the hills east of An-ping, while his cavalry reconnoitred and occupied the fords of the Tai-tse river above Liao-yang. At dawn on 31 August the passage of the river began. Kuroki was to push forward over the Hai-yan-tai hills, swing round to his left, and seize the road and railway north of Liao-yang, cut off Kuropatkin's retreat and attack him from the rear.

On 1 September Kuroki occupied Hai-yan-tai, but Kuropatkin had realized his danger and moved out a strong force to hold the hills. Checking the advance of Kuroki by vigorous counter-attacks during the three days (1-3 September), he abandoned the defence of the Shu-shan heights, evacuated Liao-yang, and moving his wounded and some of his stores by rail, and the army generally by the road, under cover of the fighting on the Hai-yan-tai hills, he made good his retreat on Mukden—not without heavy loss in prisoners, guns and stores of all kinds.

The battle of Mukden was a still more gigantic conflict than this twelve days' battle of nearly 400,000 men around Liao-yang. It was fought at the end of the winter when

the ground was still covered with snow and frozen hard.

Reinforcements received during the winter had brought up the strength of Kuropatkin's army to about 300,000 men. After the battle he reported that he was considerably outnumbered by the Japanese, but there is good reason to believe that, so far as numbers go, the opposing armies were about equal. There were thus 600,000 men in action; the fighting front at one time extended to eighty miles; begun on 19 February, 1905, the battle went on until 10 March, thus lasting nearly three weeks. The losses in killed were about 40,000, and at least three times as many wounded.

The Russian entrenched position south of Mukden lay east and west. The eastern part of the line was in the hill country, and here the defences guarded the passes and the ridges between them. Mukden, the old capital of Manchuria, stands just outside the fringe of the hills, in the plain of the Liao. The defence lines extended in the plain to the banks of the Sha-ho. An inner line of defence had been prepared immediately south of the city and curving round it to the westward. The army drew its supplies from three sources: (1) the harvest stored in the district in the preceding year; (2) supplies brought by the Siberian and Manchurian railway; (3) supplies purchased in China, forwarded by the Chinese railway to Sin-min-ting on the west side of the Liao and thence by road convoys to Mukden, where enormous magazines of food and forage had been accumulated.

The force holding the main line of defence was divided into three armies under General Kaulbars on the right, Bilderling in the centre, and Linievitch on the left. A fourth force under Rennenkampf was sent to prolong the line on this side at the outset of the great battle. With a line of such an extent movements to reinforce a flank would mean three or four days of hard marching. To bring back, say to the right, forces originally sent to the



extreme left, would mean six or seven days on the march.

It is obvious then that to mislead an enemy into reinforcing the wrong flank in a battle on this scale would be to induce him to make an almost irreparable error. Oyama's plan at Mukden was to outflank the Russians in the Liao plain, but his earlier movements were all directed to giving Kuropatkin the impression that the main attack was being made on the other flank in the hills. The plan of the battle was essentially the same as that of the battle of Liao-yang—an attack all along the front to keep the enemy occupied, and a great outflanking movement intended not only to turn the line of defence, but also to menace the line of retreat along the railway and the great Manchurian or "Mandarin" road.

Oyama had five armies under his command: (1) that of Kuroki, which had won the first battles of the war; (2) of Oku, which had stormed the lines of Nanshan; and (3) of Nozu. These three armies had fought under his orders at Liao-yang. He had brought up two other armies, namely, that of Nogi, which had besieged and captured Port Arthur, and a fifth army, that of Kawamura, recently raised, and formed entirely of reservists and recruits. It was "stiffened" by the addition of one of Kuroki's veteran divisions.

The first three armies faced the Russian lines in the same order as at Liao-yang—Oku on the left, Nozu in the centre, Kuroki on the right. Behind Oku were a cavalry division and Nogi's army. In the hills to the right rear of Kuroki was Kawamura's army, the arrival of which was as yet unknown to the Russians.

It is easy to sum up the essential features of the battle in a few lines. On 19 February the artillery opened fire all along the front. In the week that followed, Kawamura, with the 5th Army, prolonged the line to the right, and with the left columns of Kuroki's army attacked the passes of the Ta-lin Mountains, Kawamura's attack threatening to turn the Russian left. Kuropatkin, under the

impression that the Japanese hesitated to attack his strong lines in the plain, and meant to force their way to Mukden by driving in his left and fighting their way through the snowy hills, heavily reinforced the threatened flank.

Meanwhile the Japanese cavalry had pushed out from behind the left of Oku's army, and were moving across the plain towards the Liao-ho, forming a screen behind which Nogi's army prepared to follow. Kuropatkin believed the march of the cavalry towards the Liao-ho meant nothing more than a raid on his line of supply through Sin-min-ting. He was not much disturbed even by the prospect of the loss of the place. He could do without this additional line of supply for a while, and if he won the great battle he could easily recover it.

The cavalry seized Sin-min-ting and effectually screened the march of Nogi, who crossed the Hun river on 27 February, and moved up with his left on the Liao-ho to attack Mukden from the westward. As Kuropatkin discovered this flank movement he hurried troops up from his right and centre to form a new line of defence running north and south covering Mukden from Nogi's attack. Oku was able to force back the weakened Russian right, and came into line with Nogi.

Meanwhile, by sheer hard fighting, Kuroki and Kawamura were pushing the Russian left back through the hill country. In the first week of March the Russian centre alone held its fortified lines. The left was being forced back into the Hun-ho valley. The right was now an improvised line of defence with its back to the railway, trying to hold out against the attacks of Nogi and Oku. Kuropatkin's whole scheme of defence had collapsed. He now fought only to secure the retreat of his army to the Tie-ling pass, the gate of Northern Manchuria, and he did this only at the cost of thousands of prisoners, hundreds of guns and vast stores of supplies of all kinds abandoned to the victorious Japanese.

Such is briefly the story of Mukden, reduced to a mere

scheme of successful manœuvres. But to understand what such a great battle really is, one must remember that hundreds of thousands of men were engaged in the strife during twenty days and nineteen nights. There are limits even to the most iron type of human endurance, and not the least part of the task the commanders on both sides had to accomplish was to arrange for the combatants being from time to time relieved by fresh troops, so that they could snatch a little rest. They had to see that men in the fighting lines and the reserves behind them were supplied from day to day with food and ammunition. Something had to be done for tens of thousands of wounded and for men broken down by exposure and the bitter cold, and all these administrative arrangements, besides the collecting of information and the transmission of orders, had to be carried on by the Japanese over a tract of country which, roughly speaking, may be compared in extent to all the south of England from the Thames to the Channel and from Bristol to Dover.

There was hard work and often desperate fighting by night as well as by day. Indeed, the Japanese won a considerable amount of ground under the cover of darkness. Night attacks were made on the Russian positions, and troops were pushed forward after sunset to occupy ground nearer to the enemy, ground which they had entrenched before the long winter night was over. Then it was their business to "sit tight" and hold it during the day, often with the knowledge that while daylight lasted not a cartridge or a biscuit could be sent to them, and that reinforcements would reach them only with heavy loss. Most of the villages in the Liao plain were taken by bayonet attacks in the dark, and hand grenades were used as an additional weapon in these desperate encounters. The Russians fought well, and often retook by a counter-attack positions that had been won at serious cost of life. There were whole days when the Japanese advance made not an inch of progress on this

or that part of the long front—days when the line was even forced back. It is part of the trial for officers and soldiers engaged in these huge battles that often for days only the higher commanders have the remotest idea of how things are going. Men have to stand up against seeming disaster, while forty miles away everything is going well, and they do not know that success is being won at the decisive point, while all around them they see nothing but the signs of failure. Only the highest discipline and an implicit trust in the supreme leadership can carry men through such a trial. Each has to do his duty on the spot without troubling himself about what is happening elsewhere. Only in the later stages of the fight comes the general feeling of success for the victorious army, after the strain of long days and nights of what has seemed like unavailing effort and suffering.

There is no doubt that both sides had a large fund of endurance. But the Japanese were better trained, more in hand, better shots and better men in the hand-to-hand conflicts that were so frequent in the three weeks of battle. Both sides had mounted numbers of heavy siege and fortress guns in their works. But after the first week the battle on right and left had surged forward from the original fortified positions. Numbers of these heavy guns on the Russian side had been abandoned, and there was no means of carrying forward those on the Japanese side. In the last week the field artillery did most of the work. The Russian field guns were heavier than the Japanese, but the Japanese though unmatched in material, fought their field batteries with more skill. They had adopted the practice of not using trial or ranging shots, but picking up the distance with careful range-finding with instruments. They kept their guns silent and concealed till they were ready to open at once all together, and the Russian batteries generally revealed their positions by their trial shots. The Japanese range-finders were so good and so well used that they were

able again and again to put hostile guns out of action in a few minutes.

The amount of pick and spade work done was enormous. At every stage of the advance trenches were dug and gun pits hastily constructed. Much of this work was done in absolute darkness on hard-frozen ground. Spade and rifle worked together to win the victory. The battle was really a three weeks' siege of the Mukden positions.

There were desperate hand-to-hand fights with the bayonet, recalling the earlier days of pike and sword, but these were the culminating incidents of hours and days of the fire-fight with field gun and rifle and slow approach under the cover of the folds of the ground and the artificial protection of field works. Mukden was won by the massed artillery and the miles and miles of extended firing lines that gradually all but enclosed the doomed Russian army in a vast curve of fire and steel.

Even greater battles will be seen in the days when the leading military Powers of Europe are involved in conflict. French and German students of war in their forecasts of another fight between the Empire and the Republic write of a battle in which the flanks of the opposing lines may rest northward on the Belgian border, southward on the Jura mountains and the Swiss frontier.

Compared to Mukden, the battles that have since taken place in eastern Europe were minor engagements, though compared to many a famous battle of the past they were encounters on a grand scale. The war of Italy against the Turks in Tripoli, and the wars in the Balkan peninsula that followed, have, however, certain features of interest. Not the least is the appearance of a new arm that was once only associated in men's minds with the wild dreams of poets, romancers and inventors who were suspected of being on the borderland of lunacy. In various wars of the past captive balloons had been used with very limited success as lofty look-out stations, from which to reconnoitre an enemy's lines. While Russians and Japanese were

still fighting in Manchuria, what was once regarded as a hair-brained impossibility was becoming a practical reality—men were learning to fly. And there came not only the dirigible airship, but the bird-like aeroplane.

It was just at the moment when soldiers were realizing the enormous difficulties of reconnaissance in the presence of long-ranging rifles and smokeless powder, and with the introduction of endless devices to make troops in position all but invisible at a moderate distance. Then almost suddenly came the possibility of seeing wide tracts of country spread out like a map below the swift-flying aeroplane and noting columns on the march, entrenched lines, troops and guns in position. The possibilities of aerial bombardment appealed more to the civilian mind. The soldier saw that the greatest help the airship and the aeroplane would give him would be the new solution it promised for the difficult problem of reconnaissance. It might have other uses, but this was the most important of all.

Aeroplanes were first used by a belligerent Power in actual war in the Italian Tripoli campaign of 1911-12. The aviators did really valuable service in giving warnings to the Italian generals of gatherings of Arab and Turkish opponents in the broken half-desert country, and so avoiding dangerous surprises. They also attempted bomb throwing, or dropping, with apparently no other result than the production of local panics of no importance. But all the work done, even in reconnaissance, was tentative and almost experimental.

In the Balkan war of 1912-13 the Bulgarian army had a small corps of aviators, mostly foreigners hired in other countries.<sup>1</sup> Very little was accomplished. Hardly any

<sup>1</sup> The organization of regular "flying corps" in all the armies of Europe will probably put an end to the abuse of subjects of neutral powers hiring themselves out to belligerents, like the old soldiers of fortune, not merely for pilotage or reconnaissance work, but also for experimental bomb dropping, that is to say, in plain English, taking life in a quarrel in which they have no legitimate part and in which they have perhaps not even any sympathetic

useful information was obtained. There were some attempts at bomb dropping over besieged Adrianople, but not as much damage was done as could have been effected by a few shots from a siege gun.

It is from peace manœuvres that we have learned how much may be hoped from the aeroplane as a means of reconnaissance in future war on land and sea. But such manœuvres cannot ever fully reproduce the conditions of war. For instance, there is no means of testing experimentally in peace the conditions of the inevitable fight for the "command of the air," which will be a feature of future campaigns. Just as in past wars there was necessarily fighting between the advanced cavalry of the opposing armies, so a prelude to the great battles of the future will be an attempt to destroy or drive away the aerial reconnaissances of the enemy.

The greatest engagement of the Balkan war was the four days' battle of Lule Burgas (28-31 October, 1912). There were at most 250,000 men engaged—about 150,000 under Savoff on the Bulgarian side, opposed to at most 100,000 Turks under Abdallah Pasha, an officer who had completed his military education in Germany. The main Turkish position had a front of about twenty-four miles, with a wide gap between the centre and left. It ran along the edge of an open down facing the line of the Karagash brook, a tributary of the Ergene river. The Turkish left was on the Ergene, the right among the woods on the southern slopes of the Istrandza Dag range. In the first day's fight no large forces were engaged. The Bulgarian right drove a Turkish advanced detachment out of the town of Lule Burgas, the left occupied Bunarhissar. The serious fighting took place on the 29th and part of the 30th.

interest with one side or the other. A volunteer may fight for a foreign nation if he honestly believes he is supporting a good cause, but in all ages it has been rightly considered that the man who hires out his fighting power to a foreign State on the principle that "the best of causes is the best of pay" stands on a different footing from the soldier of a national army. He is the "mercenary soldier."

At the time, by a vigorous censorship and the distribution of official information to a few privileged correspondents, the Bulgarian staff succeeded in spreading abroad misleading accounts of what had occurred, and from these dispatches erroneous deductions were made by hasty critics of the campaign. Savoff won a fairly easy victory, which, however, he could not at once follow up, so that the Bulgarians reaped only a limited advantage from it. At the time it was said that the deciding factor of the battle was the Bulgarian artillery, armed with guns of French manufacture—Creusot quick-firers—and there was much rejoicing in France at these weapons having proved their superiority to the German-made Krupp quick-firers of the Turkish army. Observers of the battle say, however, that the gunnery of the Bulgarian artillerists was not anything wonderful. They had the advantage of being well supplied with ammunition. The Turks—thanks to their blundering administration—were woefully short of it, and as a result their guns could not do much for them. But it was not only the artillery that was thus left ill supplied. The cartridges of the Turkish infantry began to run short on the morning of the second day of the fighting on the main position. By that time too the troops, from the general in command downwards, were starving. It was the want of cartridges, shells and biscuits that produced the collapse of the Turkish resistance. The wonder is that under such conditions they stood so long.

As for the Bulgarian battle-leading it was of the most elementary kind. They brought their batteries and battalions into action all along the front and tried to crush the Turks by superior fire without any attempt at a concentrated attack on a selected point or at a flanking movement. The Bulgars—a half-civilized race with fierce fighting instincts and a deep hatred of the Turk—were good soldiers. In their eagerness for battle they often got out of hand, and despite the efforts of their officers to work out the attack on scientific lines, the men would raise the



cry, " With the bayonet ! " and dash at the enemy's lines, gathering into a confused mass as they rushed on. These local attacks were terribly costly, and as often as not a failure. Where they succeeded it was because the Turks were short of cartridges and shot wildly, for the ranks were full of untrained or half-trained recruits.

A desperate Turkish counter-attack made from the centre in mass on the afternoon of 30 October failed completely. It was a last effort to save the situation. The left was already retiring when Torgut Pasha, who commanded in the centre, ordered a charge against the Bulgarian lines. A correspondent of *The Times*, who watched the attack, thus describes its fate :

" The 2nd Army Corps was making its supreme effort. Down the slope came the brown infantry in rapidly moving lines. Of a truth the Turk had taken the offensive. It was a wonderful spectacle, and for the moment it looked as if the succession of waves must be irresistible. On and on they came, like a swarm of bees leaving a disturbed hive. Then suddenly from in front of them came a crash of fire. It was as if a million rifles were firing as one. The shrapnel from overhead was as nothing compared with this. It seemed as if the whole line of advancing Turks shuddered under the shock. There was no period to the crash ; it was but a prelude to a sustained series that demonstrated to the utmost the devastating power of the modern firearm. The line of advancing Turks shuddered, and shuddering, seemed as if they had been shaken from their balance by a gigantic earthquake. With one impulse four to five thousand men had thrown themselves on their faces. The impetus had gone out of the attack. There was a lull in the crash of fire from the plantations surrounding the village of Turk Bey. Spasmodic efforts were made by the Turks to infuse life again into the movement. These efforts were but the signal for further outbursts of terrific fire from the enemy, whilst the whole hillside seemed shrouded in the dust which the shrapnel and rifle bullets churned up among the prostrate Turks. The forward impetus was killed.

“Suddenly there was another movement. Again the hoarse-throated quick-firers spoke. Again the wicked automatics poured forth their leaden stream of destruction. Again the Mannlicher breech-locks worked to the fullest extent of their mechanism. The great counter-attack had failed, and the survivors were flying back to the cover of their position.”

Nothing that occurred in the Balkan war gave the least reason to suppose that against steady, unshaken troops such massed attacks have the least prospect of success. Certainly the Bulgarian victories were not due to these irregular tactics. The chief result of their employment was that the invaders of Thrace incurred exceptionally heavy losses. Against the reorganized and well-supplied army that held the entrenched lines of Chatalja and Bulair the Bulgarian efforts were unavailing.

The Balkan War therefore threw no new light on the problems of the battlefield. Our forecasts of what the great battles of the future will be like can be more safely based on the experiences of the giant conflicts between the Russians and Japanese in Manchuria. Mukden remains the typical twentieth-century battle. The new element that has to be taken into account is that of aerial reconnaissance. Had Kuropatkin possessed aeroplanes at Mukden, and had the aviators been able to carry out their reconnaissances without being destroyed by the reckless attacks of their rivals on the Japanese side, the Russians would have been early aware of Nogi's great flank march round their right. It would seem that the effect of aerial reconnaissance will be to take the element of surprise from the combinations of future battle leaders.

It may safely be said that the development of aerial navigation and the transmission of orders and information by wireless telegraphy and telephony will result in a great revolution in the methods of the battlefield. But there may be other surprises in store for the soldiers of coming wars. We have seen how again and again scientific

research and ingenious invention have realized things that were once counted as demonstrably impossible of attainment. Just now more than one student of the later developments of electricity is busy with schemes for new applications of what is popularly known as "wireless electricity" to warfare, and the claim has already been made that it is possible to explode from a distance the materials in a magazine, the charges in a gun-limber or in an enemy's guns, the cartridges on the infantry soldier's belt or bandolier. It would be rashness to assert that this is impossible. But its accomplishment might well make the use of explosives an impossibility in war. Such an event would have the strangest results. For once the latest progress would necessitate a long retrogression. It would reverse the course of military history, and bring back to the battlefield the open lines of archers and cross-bowmen, the heavy-armoured horsemen, the serried ranks of pikemen or men-at-arms like the Roman legionary and the Greek phalangist. It would be a case of "the wheel turning full circle" and bringing back the warfare of early centuries.

Or there may be another and still more remarkable development. How many of the wild imaginations of romance have in our own time become sober realities? Our growing mastery over the transformation, concentration and transmission of energy may some day result in an inventor finding the means thus to bring into the region of practical realization some weapon like Mr. H. G. Wells's imaginary heat ray—the ray of all-consuming fire that could be turned on the selected target, shrivelling up and destroying all it touched. Such a terror may some day close the long record of military history by making war impossible.

THE END

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