

RANDOM HOUSE  BOOKS



20th Century Battlefields

Peter and Dan Snow

CONTENTS

COVER

ABOUT THE AUTHOR

MAP

TITLE PAGE

DEDICATION

INTRODUCTION

**AUGUST 1918 THE FIRST WORLD WAR
AMIENS**

**JUNE 1942 THE SECOND WORLD WAR
MIDWAY**

**SEPTEMBER 1942-FEBRUARY 1943 THE SECOND
WORLD WAR
STALINGRAD**

**APRIL 1951 THE KOREAN WAR
THE IMJIN RIVER**

**JANUARY-FEBRUARY 1968 THE VIETNAM WAR
THE TET OFFENSIVE**

**OCTOBER 1973 MIDDLE EAST
YOM KIPPUR**

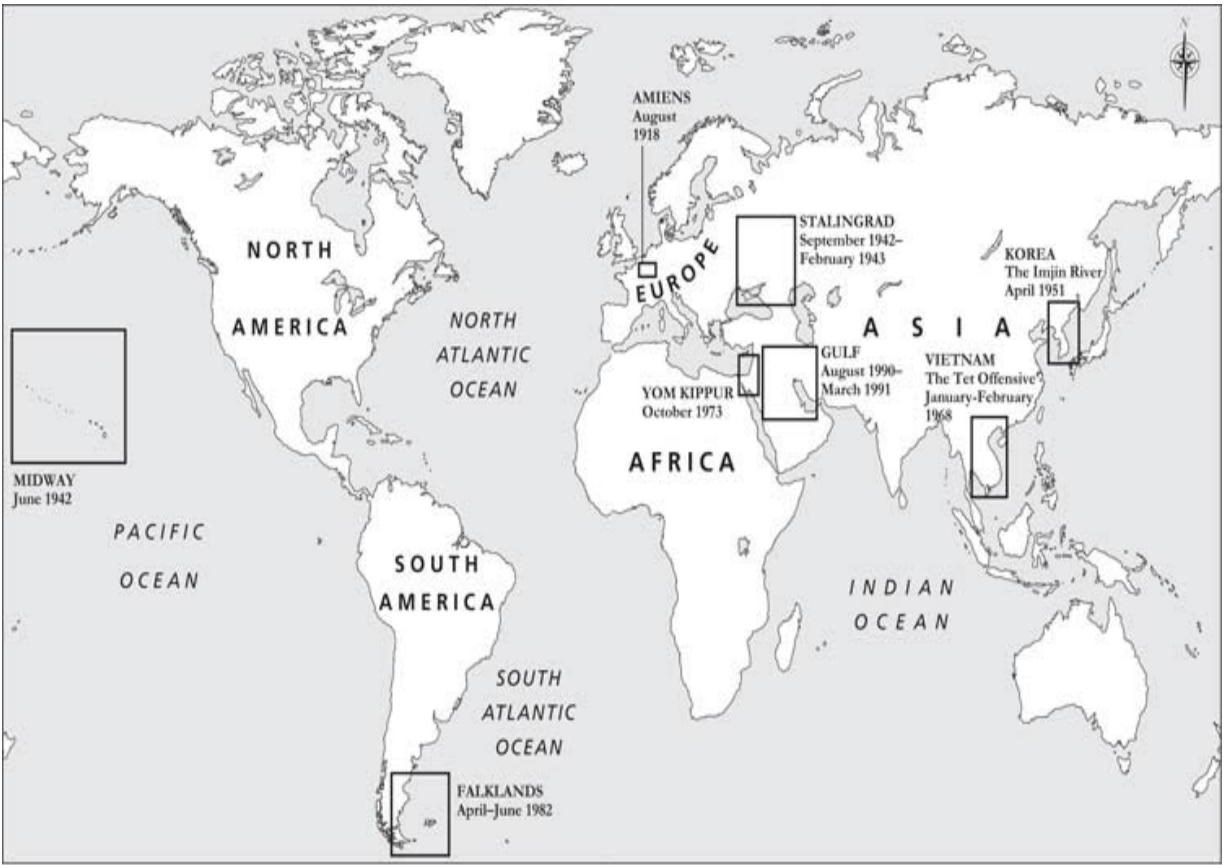
**APRIL-JUNE 1982 SOUTH ATLANTIC
THE FALKLANDS**

**AUGUST 1990-MARCH 1991 THE FIRST GULF WAR
KUWAIT**

FURTHER READING
NOTES
PICTURE SECTION
INDEX
ACKNOWLEDGEMENTS
PICTURE CREDITS
COPYRIGHT

About the Author

Peter Snow is a highly respected journalist, author and broadcaster who has covered military matters on and off the battlefield for more than 40 years. **Dan Snow** is a military historian who has presented a number of BBC history programmes. In 2004 they wrote *Battlefields Britain*.



General key to maps

Army units		Army size		Road		Advance	
☒ Infantry	● Artillery	XXXXX Army group	▣ Regiment	— Road	➔ Advance	➔ Retreat	☐ Oldfield
☒ Mechanized infantry	☒ Airborne infantry	XXXX Army	▣ Battalion	- - - Railway	➔ Retreat	☐ Oldfield	
☒ Armour	☒ Air assault	XXX Corps	⌈ Company/Battery/Squadron(UK)	— International borders			
☒ Light armoured/recco	☒ Helicopter assault	XX Division	••• Platoon	⌈ Ridge			
		X Brigade	• Section	▲ Spot heights			
			• Squad				

20th CENTURY BATTLEFIELDS

PETER AND DAN SNOW

BBC
BOOKS

To the memory of Captain Jim Philipppson, an outstanding soldier and friend, who gave us valuable help. Like so many other young men in this book he died in action far from home.

INTRODUCTION

Antibiotics, artificial intelligence and the internet: the twentieth century was one of unimaginable progress in so many ways. At no previous time in history has the human condition been so radically transformed. A Briton born in 1901 could expect to live half as long as one born today. He or she would be expected to defer to his or her betters. The world of 1901 was one of empires and monarchies, where class, ethnic and racial hierarchies were part of everyday life. Only a tiny number of states had yet embraced universal suffrage. Self-determination and democracy were not yet widely accepted as desirable forms of government. It was a world without air travel. The motor car was only a decade old and utterly primitive. The first radio broadcast was still years away. The vast majority of the world's population had never used a telephone or travelled more than 50 miles from where they were born. Yet 100 years later an explosion of scientific progress resulted in a fivefold increase in the world's population, astonishing medical advances, the discovery of the very building blocks of human life (DNA) and the projection of man-made objects beyond the limits of our solar system.

These changes revolutionized every aspect of life on earth, but they were powerless to curb the all too human propensity to resort to violence in order to settle differences. Indeed, it might be said that warfare flourished: in no field has the progress of science had a

more striking effect than in combat. The destructive capacity of weapons increased so much during the twentieth century that any comparison has become meaningless. By the last third of the century, mankind had the ability to destroy the human race many times over. Satellites orbited the planet providing vital military intelligence and communications support to combatants on the ground. Jet aircraft could travel at over 2000 miles per hour and deliver weapons to within a few inches of their intended targets. Nuclear-powered submarines could stay on the bottom of the world's oceans almost indefinitely and packed enough of a punch to eradicate a medium-sized nation state. The ability of governments to enlist, motivate, train, equip and maintain enormous numbers of men and women in the armed forces was no less impressive. Changes in education, communications, healthcare, financial systems and transport were seized upon by warriors to revolutionize warfare as surely as they were transforming civilian society.

As a result, warfare reached unprecedented levels of intensity, scale and cost. Entire societies laboured under the yoke of war. Civilians were deliberately targeted in an attempt to crush the enemy population's will to fight. Armies of tens of millions fought along fronts the width of continents. Ethnic and state groups used all the machinery of the industrial age to carry out slaughter, sometimes of entire peoples. Tens of millions were murdered in Eastern Europe, Russia, China, Cambodia and sub-Saharan Africa.

It is a vicious paradox that the century which witnessed the scaling of such stunning scientific heights also saw the darkest chapters in the long and terrible story of man's inhumanity to man. Whenever a new field was opened to human development, militarization would immediately follow. In previous centuries, humans had restricted themselves to fighting largely on the surface of land and sea. By the end of the twentieth century, war had moved

into the air, underground, under the sea and had made the first tentative steps into space and the ether as well. And as with many advances throughout human history, it was often military considerations that drove the pace of technological advance.

This is not to say that the increasing scale and destruction of warfare was not matched by some well-meaning attempts to prevent states fighting each other. Abhorrence at the devastation of the First World War prompted the creation of the League of Nations, and the United Nations was set up after the Second World War. The Kellogg-Briand Pact was signed in the White House on 27 August 1928 and nations including Germany, Japan, the UK, America and France agreed upon the 'renunciation of war as an instrument of national policy'. The spirit of the Pact was evident two decades later in the wording of [Chapter 2](#) of the United Nations Charter: 'All Members shall refrain in their international relations from the threat or use of force.' The growth of other supranational organisations, such as the European Union, also encouraged dialogue and provided a framework for reducing tensions. The century also saw attempts at arms control. Awareness of the awesome power of nuclear weapons led to the Nuclear Non-proliferation Treaty. But neither the existence of the treaty nor the United Nations did much to deter states that perceived a threat to their existence from using force or pursuing the development of nuclear weapons.

In this book we chart the course of eight of the most striking and dramatic battles of the twentieth century. They vary in scale from possibly the biggest battle in history, fought at Stalingrad in the winter of 1942-3, to the relatively minor struggle over the Falkland Islands in 1982, but they all had a critical impact on the course of history. They had one feature in common: they changed the future. The world would have been very different if the outcomes of these battles had been reversed

Any list of decisive battlefields is subjective and we make no claim that what follows is a military history, let alone a full history, of the twentieth century. Instead, we examine eight of the great punctuation marks of the century. We acknowledge the importance of the Boer War and particularly the Russo-Japanese War, which saw the eclipse of Russian power in east Asia, shook the Tsarist regime to its foundations and gave birth to a modern Japanese empire. But we decided to begin with the First World War. This global clash destroyed the old world order based on the hegemony of the ancien regime European empires. During this conflict, 65 million men from around the world were mobilised, 8 million of them were killed and 21 million wounded. Contrary to the popular view, the men who presided over this unheard of carnage were not stupid, blinkered or lazy. Generals of all nationalities wrestled with a military situation that had been transformed by the introduction of new weapon systems and a revolution in communications. Rarely in military history have armies adapted so quickly. By 1918, the British army bore almost no resemblance to the small, professional imperial police force it had been in 1914 and the changes to the American, French and German armies were no less dramatic.

The first battle in the book, the Battle of Amiens, is oddly little remembered. In fact, it marked a key turning point in the First World War. It also witnessed the birth of modern all-arms warfare. The British, Canadian, Australian and French troops who fought in it would not have been out of place in the Falklands, whereas their counterparts of just four years earlier, in 1914, used tactics reminiscent of their forebears at Waterloo. If any battle illustrates the reasons for the Allied victory in the First World War, it is the Battle of Amiens in August 1918.

The untidy outcome of the First World War provided a crucible for the ideologies and conflicts that blighted the rest of the century. In Europe it toppled four ancient

multinational empires and spawned a torrent of radical ideas that promised Utopian solutions to a shattered continent. After a vicious civil war, Communism took hold across the several time zones of Russia, while in central Europe and east Asia charismatic fascists won populations over with promises of racial domination and economic self-sufficiency.

The Second World War was even more terrible than its predecessor. Millions of combatants died on battlefields of a titanic scale, millions of civilians were tortured, raped and murdered in campaigns of racial annihilation. Cities were systematically destroyed from the air and their inhabitants incinerated. Men and women fought in a striking variety of conditions. Off the North Cape of Norway life expectancy was measured in seconds if sailors ended up in the icy water. In the deserts of Egypt the oven-like intensity of heat during the day tormented sunburnt soldiers at the very extremity of long and often dysfunctional supply chains. On the Kokoda Trail in New Guinea the strongest boots fell to pieces after only a few days of clambering over razor-sharp volcanic rock, wounds took an eternity to heal and cannibals lurked around the margins, waiting to pick off any Japanese or Australian stragglers.

We chose two battles from the Second World War, each one decisive in its own theatre of the war. The destruction of the Japanese carrier fleet at the Battle of Midway in June 1942 spelt absolute disaster for Japan's strategy in the Pacific. After Midway, all Japan could do was pray for a miracle while hundreds of thousands of her servicemen fought with suicidal bravery, trying to delay the inevitable: total defeat of their country. In the war between the Soviet Union and Germany, which saw the most critical struggle of the Second World War in Europe and 90 per cent of its casualties, the Battle of Stalingrad was the turning point. Although the reverse in front of Moscow in December 1941

effectively spelt the end of Hitler's dream to destroy the Soviet Union, the capitulation of the 6th Army in early 1943, among the ruins of Stalin's city, was the moment at which people around the world believed that Hitler's hitherto invincible *Wehrmacht* could and would be defeated.

The Second World War finally ended with the ultimate product of the marriage of science and warfare, as nuclear bombs obliterated Hiroshima and Nagasaki. But the halt in fighting was no more than a hiatus. The eclipse of a great power more often than not led to fighting over the spoils among its successors. Civil wars flared up where broken European empires shrivelled, and in the areas vacated by the Japanese in the Far East. Opposing groups could appeal to one of two ideologically opposed 'superpowers': the United States and the Soviet Union. The two countries stood at the head of respective coalitions that eyeballed each other across the shattered remnants of central Europe, each determined to stop the other from gaining any advantage.

It was the beginning of four decades of Cold War, no less bloody for being undeclared. Ten million people are estimated to have lost their lives as the two superpowers wrestled for influence from Greece to Malaya and from sub-Saharan Africa to Cuba. One civil war became a test, and a success, for the new United Nations as North Korea's Communists, hoping that the international community would not care, attempted to annex the American-backed south. Despite the desire by war-weary societies to rebuild after the Second World War, nations gathered in a vast alliance that was to secure eventual stability and lasting partition on the Korean peninsula. Another such conflict in Vietnam saw France humbled and then America bogged down in military operations quite unlike the mobile operations of the Second World War or the positional slogging match in Korea. During the Tet Offensive of 1968,

the American military scored a notable success over the North Vietnamese and the Communist insurgency in South Vietnam, but lost the wider political battle for the hearts, minds and votes of the American electorate. As generals were to discover, instant news and television pictures broadcast almost simultaneously around the world would raise challenges as dramatic as the development of the tank, bomber or machine gun. Of all the eight battles in this book, it is the Tet Offensive in Vietnam that most markedly illustrates the central importance for modern nations at war to match success on the battlefield with the careful maintenance of popular support at home.

In the Far East, it was the collapse of the Japanese and French empires that encouraged competing parties to wage war to fill the void. In the Middle East, it was the British who withdrew when the financial cost of empire outweighed any gain. Since the British left Palestine, Arabs and Israelis have been fighting to control it. In 1948, 1956 and 1967, major wars broke out between the State of Israel and its neighbours. But it was in October 1973 that the most hard-fought battles took place. The conflict that began on the Jewish holiday of Yom Kippur hung in the balance for some time and at one point seemed almost to threaten the very existence of Israel.

Declining British power was also responsible for the attempt by the military junta of Argentina to seize the Falkland Islands in the South Atlantic. The Argentinian regime took a gamble. Its leaders judged that a weak Prime Minister, Margaret Thatcher, presiding over a nation that appeared to be in terminal decline, would not be in a position to recapture the islands. Margaret Thatcher surprised them and the world by doing just that. The success was to allow her to push through reforms that changed Britain radically and established her as one of the most influential figures of the late twentieth century.

The last chapter of this book deals with a conflict that to some looked like the dawning of a new era of international law and collective punishment for those who flouted it. When Saddam Hussein invaded Kuwait in 1990, he did not imagine that he would be faced with a coalition that spread from Syria to the United States preparing military action to force him out. In a stunning display of force, the US led the coalition and deployed the troops and weapon systems that NATO had been preparing to use against a Soviet thrust into Western Europe. The result was a shattering defeat for Iraq and its Soviet-supplied arsenal of weapons while the American military recovered the pride and prestige it had lost in Vietnam. But the high hopes were soon dashed when Saddam Hussein increased the repression inside Iraq itself and continued to defy the outside world. Iraq was a crisis that would continue well into the twenty-first century, even beyond the American invasion of 2003 and the execution of Saddam Hussein himself in January 2007.

Many of these conflicts were waged on such a gigantic scale that it is hard to believe that individuals could have had any impact on their outcomes. The history of the twentieth century can give the impression that we humans were adrift in a raft on a mighty river, where ferocious paddling was, at best, able only to have a slight effect on our course. But leadership retained its pivotal power to decide events throughout the century. What if Tsar Nicholas had kept his fragile empire out of the First World War, or Admiral Jellicoe had led the British fleet to disaster at Jutland? What if Halifax had become Prime Minister rather than Churchill, or Hitler had not halted Army Group Centre in front of Moscow in the autumn of 1941? What if Stalin had not recovered his nerve after his breakdown during Barbarossa, or his subordinates had not been so efficient at relocating Soviet factories in the teeth of the German advance? What if the Japanese commanders had prioritized the destruction of the aircraft carriers or oil

tanks in Pearl Harbor, or Israel's leaders had not mobilised so effectively when caught by the surprise Arab attack in October 1973? The world today would be a very different place.

During the course of writing this book and making the television programme for BBC2, we have covered all of these battlefields on foot. We argued with each other about the Domino Theory inside the walls of the Imperial Palace at Hue, which has never been fully rebuilt since the Tet Offensive; we have peered through the finger-sized bullet-holes in the blue glass of the big hangar on Ford Island in Pearl Harbor; we have been moved by the litter of pathetically inappropriate plimsolls left on the hills of East Falkland by the boy soldiers of the Argentinian Junta. Dan stood on the 'Bridge of No Return', between North and South Korea, with two South Korean soldiers standing by in case soldiers from the North attempted to abduct him, with the words of the American area commander still ringing in his ears: 'Don't worry about the North Korean snipers. They'll be covering you alright, but if they shoot, you'll be dead before you hear the shot.'

As much as possible, we have tried to see the stories of these battles through the eyes of those who fought them. We have trawled through diaries and other eyewitness accounts and spoken to survivors, from generals, admirals and statesmen to ordinary soldiers, sailors and airmen on all sides, in order to bring alive for the reader what it must have been like to experience the horror of war. We have met a number of veterans. Particularly memorable were the survivors of Stalingrad: we listened to their tales of the battle and the lasting psychological damage it did to them as they plied us with freezing vodka and chilled pig fat. In a village on the Russian Steppe, a man remembered seeing General Paulus in autumn 1942, when as a boy he was allowed to play on the street outside the German army's headquarters. We asked him what Paulus had looked like:

he pointed at Peter and replied, 'Like him.' In Vietnam, a middle-aged man showed us around a tunnel complex which he had built as a boy: he remembered the ground shaking as American bombs landed noisily but harmlessly above. He told us, 'The Americans owned the day; we owned the night.'

Many of these battles have not simply left physical scars on the landscape and dreadful memories for the survivors. They remain open wounds, threatening to erupt all over again. Along the Korean frontier, the third and fourth largest armies in the world still eyeball each other across a ceasefire line. On the Golan, Israeli positions are maintained in case the Syrians try again to seize back their lost lands. It is a standoff that threatens to poison the relationship between Islam and the West for years to come, as extremists on both sides try to engineer a wider clash of cultures.

It will take more than a naive faith in the continuing advancement of the human condition to ensure that the unfinished business of the twentieth century does not pollute the 21st. One thing that can be said is that we are unlikely to see warfare on the scale of the gigantic struggles of the twentieth century again. With the dropping of the nuclear bomb on Hiroshima on 6 August 1945, the age of internecine industrial warfare between the great powers came to an end. There will be nothing like Verdun, Stalingrad, Kursk or the Leyte Gulf in the foreseeable future, if ever again. This does not mean an end to violence. Regional struggles will continue and ethnic conflicts are all too intractable. And wars will not be confined to the developing world. The overwhelming military might of the great powers will not save them from future conflict. But it will not be warfare on the massive industrial scale of the twentieth century. Al-Qaeda opened the twenty-first century with a devastating example of what is called 'asymmetric' warfare. The unprecedented military

dominance of the USA and its vast nuclear arsenal were impotent in the face of a small, highly motivated group of terrorists who struck at targets in New York and Washington. Two years later, the aftermath of the invasion of Iraq in 2003, massively mismanaged by the invaders, left Britain, America and their allies facing an insurgency that brought back fearful memories of earlier unconventional conflicts. As in the war in Vietnam, guerrillas will respond to overwhelming military power by simply side-stepping it. The revolution in communications, the internet and a 24-hour media, as well as the vast destructive potential of small amounts of biological, chemical or radiological materials, mean that small groups can strike at the very heart of an enemy. Thus the past century has witnessed a slow and inexorable extension of the battlefield. It began with opposing sides trying to crush the enemy's frontline troops and then slowly crept back to include their command and control and logistics. Now a highly motivated force, even if it is immeasurably weaker in conventional military hardware, can erode the other side's will to fight by targeting its political will to fight. The wars in Iraq, Afghanistan and Vietnam demonstrate how important it will be for armed forces to adapt to a quite different kind of conflict.

By 2007 this new form of warfare was having a discernible impact on the structure and doctrine of the world's armed forces. Half a decade into the wars in Afghanistan and Iraq, the United States was being compelled to abandon plans for a move to lighter armed and more streamlined forces. Urban warfare against a hidden enemy and the threat of roadside bombs demanded heavier rather than lighter armoured vehicles and more weighty body armour and personal weaponry. A new counterinsurgency code emphasized the need for tactics that would win the hearts and minds of the population.

However, contrary to expectations, the student of military history in the twentieth century need not become an inconsolable pessimist. There are grounds for hope, and even optimism, about the future. There was more to the twentieth century than rampant and colossal violence. The major wars were brief, if horrific, interruptions in a century that became progressively less violent. The dawning of the nuclear age has effectively put an end to warfare between the great powers. Nuclear proliferation will bring new dangers. It will increase the risk of nuclear weapons falling into the hands of irresponsible leaders or terrorists, but it will also increase the number of nuclear-armed states who may be mutually deterred from fighting each other. Other changes too seem to have eroded the root causes of conflict. The advancement of democracy, growing prosperity and a revolution in communications have improved understanding and empathy between peoples widely separated by geography. A globalized economic system allows individuals and states to pursue their legitimate ambitions without having to use force to secure natural resources and markets. While many challenges lie ahead, it can reasonably be hoped that the twentieth-century battles we describe in this book, in which states threw the full weight of their industrial might at each other, represent the peaks of high-intensity warfare. We may very well be looking back at the most violent century in the history of mankind.

AUGUST 1918

THE FIRST WORLD WAR

AMIENS

AT 4.20 A.M. on a summer's morning, the dark, quiet countryside around the River Somme in northern France was shattered by the sound of thousands of guns. Jets of flame erupted from British artillery barrels, sending high-explosive shells racing towards an enemy caught utterly by surprise. Countless flashes of light illuminated the desolate landscape, pitted with shell holes and already covered with the corroding debris of war. Here and there the remains of villages could be seen, once backwaters, now on the front line of the greatest conflict in history. Forward of the guns, thousands of men, mainly from Britain and its empire, crouched in trenches knowing that it would soon be their turn. They checked and rechecked equipment: the magazines for their rifles, the chin-straps on their helmets. Some said prayers; many wished they could be anywhere in the world but here. They were part of a push to beat back the German invaders. But unlike the apparently futile offensives which had gone before, this attack would have a profound impact both on the First World War and on military tactics. It bore little resemblance to the struggle fought along the same river two summers earlier; instead this battle, begun on 8 August 1918, would mark the emergence of the art of modern warfare. The tactics used on this battlefield would be the blueprint for the way battles were fought to the present day. Indeed, the soldiers

who took part in the attack were to have more in common with the servicemen described in the final chapter of this book than they had with their unfortunate predecessors of two years before. This battle would take its name from the nearest city, Amiens, and, although now largely forgotten, it is one of the most significant milestones in British military history.

THE GREAT WAR

Just over four years earlier, the heir to the throne of the sprawling Austro-Hungarian empire had been shot and killed in Sarajevo, Bosnia. The assassination of Franz Ferdinand was seized upon in Vienna as an opportunity to reassert Austrian mastery of the Balkans and punish its bellicose neighbour, Serbia, who it guessed was behind the assassination. But Slavic Serbia was protected by its mighty mentor, Imperial Russia. Austria could not risk war with Russia before checking that its Teutonic equivalent, Germany, would offer support to the Austrian side. The German leadership believed a pan-European war was probably inevitable sooner or later and that Germany stood a better chance of winning it now, while it still had a sizeable industrial lead over a fast-modernizing Russia. So Germany's Kaiser, Wilhelm II, handed Austria what has become known as 'the blank cheque': Austria could do what it wished to Serbia, even if those actions precipitated a much wider war.

Austria began to bombard the Serbian capital, Belgrade, after only the most perfunctory attempt at reaching a peaceful solution. Russia mobilized while its Tsar, Nicholas II, sent frantic telegrams to his cousin the Kaiser begging him to defuse the situation. Instead Germany declared war on Russia, and in doing so dragged in France, which was treaty-bound to come to Russia's defence. The German plan called for a lightning defeat of France in the West followed

by a campaign against Russia. Britain was not treaty-bound to come to the aid of Russia and France, and the Kaiser hoped that, with its massive global empire, Britain would avoid continental entanglements. But Britain had one foreign policy aim older even than the preservation of its empire: to prevent a single European power dominating the continent. Added to this was the fact that German troops were sweeping through Belgium to outflank French fortifications. The British government decided that its national interest and honour obliged it to stand by its treaty commitment to protect Belgian neutrality. Just before midnight on 4 August 1914, Britain declared war on Germany.

And so it was that this elaborate web of events and strategic calculations led to the most destructive war the world had yet seen. In the course of four long years the nature of war was to undergo a radical transformation, but it was not until the last 18 months of fighting that a new pattern of tactics would emerge. For most of the war it seemed that the overwhelming weight of firepower and the constraints that it imposed on mobility and attack would condemn all sides to be mired in trench warfare that neither side could break.

At the beginning of the war the Royal Navy, the biggest and most modern fleet in the world, sealed off the North Sea and cut Germany off from raw materials and other vital supplies. This would have a slow but decisive effect on German agriculture, industrial production and eventually civil society itself. But in western Europe the war on land soon settled down to a bloody stalemate on virtually immobile front lines. The small but professional British Expeditionary Force (BEF) crossed into northern France and played its part in trying to reverse the German advances in the fighting of autumn 1914. But from the end of that year until the end of the war an unbroken line of trenches ran from the Channel ports to the Swiss border.

The prospect of either side freeing itself from the tyranny of positional warfare had been extinguished by recent radical technological changes. The industrial revolution had altered the way human beings fought each other as surely as it had changed the way they travelled, built and communicated. But there had not been a corresponding revolution in military tactics. In 1914 officers and men went into battle in ways that would not have been out of place 100 years before, when an infantryman could fire just three rounds a minute. But by 1914 a small number of men could fire an almost infinite number of bullets, far more accurately, over a far greater range. It was said that during an attack on High Wood on 24 August 1916 ten Vickers heavy machine guns fired in excess of one million rounds over a 12-hour period. Indeed, First World War weapons such as these remained in use until the middle of the twentieth century. These breech-loading, rapid-firing weapons were reinforced by quick-firing artillery which could deliver a murderous weight of accurate fire. The critical feature of these new weapon systems, as with other more low-tech innovations such as barbed wire and underground concrete bunkers, was that they benefited the defending side far more than the attacker. Charging men had to cross a killing zone of greater depth and lethality than ever before. At the 1916 Battle of the Somme British troops climbed out of their trenches hoping that the preceding ferocious British artillery bombardment would have destroyed the German positions. Instead, once the Germans heard the barrage lift they emerged from their dugouts, set up machine guns and caught the British in the middle of no man's land, walking in tightly bunched lines behind a belt of largely unbroken barbed wire. The first day of that battle, 1 July 1916, was the worst day of slaughter the British army has ever experienced: 57,470 officers and men were killed, wounded or captured, and 32 battalions each lost over 500 men.

Technology favoured the defence in other ways, too. Although railways benefited both sides, it was the defenders who gained the most: they could rush supplies and reinforcements to any point on their railway line. Attackers could not lay track as they advanced; instead, every step took them further away from their logistical chain. Nor could most machine guns and artillery pieces be easily moved forward. Machine guns weighed too much in 1914 and artillery required teams of horses, themselves vulnerable to enemy fire. Battlefield communications were a constant problem. Radio was in its infancy and too bulky to be carried by infantrymen. Even if the attackers were still within range of their own artillery, there was no way quickly to call in fire support.

Contrary to an all-too-persistent popular misconception, it would be quite wrong to assume that commanders made no attempt to overcome these enormous problems. Soldiers, scientists and engineers tried every conceivable experiment. From 1914 onwards the Western Front was a seething hotbed of new ideas and wild strategies and a testing ground for new technology. Both sides were constantly developing weapons and tactics in an attempt to break the deadlock of trench warfare.

In 1915 the British Expeditionary Force in France came under the command of Sir Douglas Haig. He was a veteran of campaigns in Sudan and South Africa and in 1905 he had married, after a few days' acquaintance, a lady-in-waiting to the Queen. Thereafter, he enjoyed useful access to King George V, which helped strengthen his position in the face of increasing hostility from the politicians in London. A cavalryman through and through, he always believed that trench warfare was an aberration and that the day of the horseman and the cavalry charge would return. Although he did encourage technological development during the war, in 1915 he is alleged to have said that the machine gun was 'over-rated', and as late as 1925 he maintained

that 'some enthusiasts today talk about the probability of the horse becoming extinct and prophesy that the aeroplane, the tank and the motor car will supersede the horse in future wars. ... I am sure that as time goes on you will find just as much use for the horse - the well-bred horse - as you have done in the past.'¹ Haig is, without doubt, one of the most controversial figures in British military history - to some a butcher, to others a great strategist who presided over a British army that was evolving more rapidly than at any time in its history.

The size of the BEF that Haig commanded had grown from 100,000 regulars in 1914 to over 1.8 million by 1917.² Nearly all of these men had come into the army from civilian life - they were everything from students and bakers to office workers and tradesmen. A mix of volunteers and conscripts, they had to be taught the art of modern warfare. The attacks of 1916 and 1917 along the Somme and in Flanders are often written off as futile, but they had in fact been a valuable learning experience for these men, albeit a bloody one. Raw troops, if they survived, were slowly turned into veterans. By late 1917 the BEF had made huge strides: its best units were as good as any in the French or German armies.

There was one British attack in 1917 that stands out as an example of the BEF's rapid improvement and its willingness to embrace new technology. In March the Germans had made a tactical withdrawal to a massively fortified position known to the British as the Hindenburg Line, after the new commander of the German forces, General Paul von Hindenburg. In November Haig decided to fight a limited battle to break the Hindenburg Line at the town of Cambrai. It would be a completely new form of offensive: he decided to use innovative artillery tactics to stun the German troops, and then send in tanks in massed formation for the first time. The British were pioneers of tank warfare, which they saw as a way to alleviate the

slaughter on the Western Front. It was their naval experience that encouraged them to develop the tank. It seemed, to nautical-minded Brits, akin to a heavily armoured gunboat ploughing through oceans of mud. Indeed, for its first few years the tank was named the 'landship'. The early tanks were slow, prone to breakdown and, with no separation between the crew compartment and the engine, they tended to asphyxiate their crews. But they could crush barbed wire, their tracks ensured that they could cross a shattered landscape, their machine guns could bring fire to bear on enemy positions and their armour made them invulnerable to enemy small-arms fire. The Germans had not embraced mechanized warfare, partly because the blockade had prevented them from getting enough of the requisite raw materials and partly because their traditions led them to put a priority on aggressive infantry attacks.

On 20 November, 1000 British guns fired a short barrage and then 476 tanks rumbled forwards. German defenders were stunned by the shelling and then panicked as they saw tanks roll out of the gloom. That night the British advanced as much as 5 miles (8 km), a great distance when ground was typically lost or won in terms of mere yards. When the news reached the United Kingdom, church bells were rung for the first time since the beginning of the war. But it was not to be an unqualified success. Haig decided to push on with the attack over the next week, and it bogged down. The Germans took the opportunity to counter-attack, and the battle ended with no clear advantage to either side. During the counter-attack the Germans displayed new tactics of their own - another of their constant innovations to try to break the deadlock on the battlefield. Elite units of men armed with lighter than normal weapons moved forward quickly, infiltrating British lines and searching out weak points. These men

were called *Strosstruppen*, Stormtroopers, and their presence on the Western Front would prove revolutionary.

Cambrai hinted that change was coming, but by New Year's Day 1918 a number of factors away from the battlefields of north-east France had made a dramatic transformation inevitable. After a string of military defeats, Russia had collapsed. The Tsar had been ousted in early 1917 and the government that replaced him was in turn toppled eighteen months later. The new Bolshevik leaders withdrew Russia entirely from the war. France was near breaking point: mutinies had ravaged the French army as morale dropped to a new low after a number of failed offensives. But Germany was feeling the effects of prolonged warfare too. Its people's suffering at the hands of the British naval blockade was increasing. In early 1917 Germany had taken the huge gamble of declaring unrestricted U-boat warfare in the Atlantic, which came close to starving Britain of supplies. But inevitably American ships travelling to and from Britain were torpedoed, and many American citizens killed. The United States, the world's largest economy, was now forced to join the war against Germany.

America would take a long time to make its presence felt on the battlefields in France. In 1916 the US army numbered just 100,000 men.³ America effectively had to build a modern army from scratch: the British experience had already shown just how long it took to turn civilians into professional soldiers. The war was now a race. Russia's collapse meant that Germany could rush its troops from the Eastern to the Western Front. The question was whether Germany could win the war before America's bottomless pit of manpower and its financial and industrial might could be brought to bear. The year 1918 would be a decisive one.

The men in the trenches sat through the fourth winter of the war on the frost-covered plains of Flanders and northern France with a sort of grim fatalism. Desmond

Allhusen, an officer with the 8th King's Royal Rifle Corps, wrote, 'The future seemed to be an endless vista of battles, each one worse than the last. We still felt that we would win, but had stopped saying so. The war was the only real and permanent thing, thriving and increasing in a world that was going to ruin ... our destinies were clear enough. We would be hit, and if we recovered we would be hit again, and so on until we were either dead or permanently disabled.'⁴ Hubert Essame, from a Northamptonshire battalion in the 8th Division, wrote years later : 'The mood of these men in their forward posts on this bitter New Year's Day could be summed up as stoical endurance combined with bewilderment. Any desire they ever had to attack the Germans had long since vanished: now they counted the minutes and hours to be endured before relief came.'⁵

The Germans had more to celebrate. Russia had been knocked out of the struggle, and there were rumours of a planned attack in the West that would win the war. Herbert Sulzbach, a German artillery officer, wrote in his diary, 'Once more a year reaches its end, in which we can be proud of each other, since what we have stood firm against on this Western Front can never be described in words. ... People are talking a lot just now about a big offensive which is supposed to be coming off in France; we are already keyed up, and hardly dare hope for it.'⁶

THE LUDENDORFF OFFENSIVES

Germany had to win the war in one campaign. Further attrition and another winter of shortages caused by the Royal Navy's blockade could only end in defeat. Erich von Ludendorff was Hindenburg's quartermaster general and the *de facto* commander of Germany's armies; Hindenburg's calm solidity provided the cover for his subordinate's brilliant if abrasive personality. The time had

come, Ludendorff decided, to use the men no longer needed on the Russian front to strike a series of blows that would break the Allies in France. Those blows were to be aimed initially at the British, because he was convinced that Britain was the central power in the alliance. Beat Britain, he calculated, and France, deprived of its paymaster and supplier, would collapse. The British armies had their backs to the Channel: he would drive them into the sea.

The attack would be made in Picardy, over the terrain of the old Somme battlefield. It was drier here than in Flanders, so there was less risk of getting bogged down in bad weather; and the British had recently taken over a section of line from the French, which meant that the available forces were spread a little more thinly. Everything that the Germans had learnt in the previous three years of fighting would be put into effect. It would be an attack quite unlike any other.

In mid-March a trench mortar operator, J.W. Gore, wrote in his diary, 'There is an ominous feeling about, as if something is about to happen.'⁷ Haig too believed that something was afoot. In fact, he was feeling rather bullish about it. On 2 March he confided to his diary that the British 'plans were sound and thorough, and very much work had already been done. I was only afraid that the enemy would find our front so very strong that he [would] hesitate to commit his army to the attack with the almost certainty of losing very heavily.'⁸ Two weeks later he wrote to his wife that 'everyone is in good spirits and only anxious that the enemy should attack.'⁹ At 4.40 a.m. the next morning, 21 March, he got his wish. Six and a half thousand German guns roared along a front of 70 miles (110 km). That day they were to fire 3 million shells. Half of their entire artillery strength on the Western Front had been secretly moved to support this push. Winston Churchill, visiting that portion of the front in his capacity

as Minister of Munitions, called it, 'The most tremendous cannonade I have ever heard'.¹⁰ Gas and high-explosive shells pounded British troops, bunkers, railways, communication centres, supply dumps and any other target, no matter how apparently insignificant. Historian Malcolm Brown characterized it as 'the greatest utterance of modern industrialized warfare to that date'.¹¹ The offensive was Germany's bid to win the war and it was named after the country's patron saint, Michael.

The Michael Offensive was not based just on massive and accurate use of artillery. The entire German army had been scoured for the best men, who had been retrained as *Strosstruppen*. Among the new weapons they carried was the world's first sub-machine gun, the MP18, which increased the infantryman's firepower without burdening him with weight. Two men in each squad carried a flame-thrower: compressed nitrogen expelled fuel oil which was ignited as it left the nozzle and could envelop whole stretches of trench in a blazing fireball. Others carried grenade-launchers or light mortars which had a range of just 3300 feet (1000 metres). British Lewis light machine guns, captured on the battlefield, were popular with the Germans; weighing just over 28 lb (13 kg), they could be carried forward quickly. Assisted by massive artillery support, these squads would dash forward and exploit any weakness in the enemy line. If they met opposition they would either destroy it or bypass it and sow confusion further on, leaving follow-up troops to deal with the obstacle.