John Frederick Charles Fuller

1878–1966

I knew I should create enemies, yet without a sturdy opposition it is most difficult to explode deep-rooted absurdities.
J. F. C. Fuller

Of all meetings between man and machine, the one which occurred on 20 August 1916 in an open field near the village of Yvrench was among the most fateful. Major Fuller and a sapper colleague from Third Army HQ had heard about a demonstration of something weird and wonderful. The Somme offensive ground on within earshot and Allenby was still very much a presence at the nearby chateau HQ that they had managed to leave behind for the day. The weather was balmy, and the sense that they had left behind all sorts of grim labour created something of a holiday atmosphere. 'As we approached the area,' Fuller would write later, 'more and more did it assume the aspect of Epsom Downs on a Derby morning.'

There were hundreds of spectators, from brass hats to staff and humble regimental officers. Some had even brought picnics. The object of their curiosity could be heard humming and clanking some time before it came into view. 'Everyone was talking and chatting, when slowly came into sight the first tank I ever saw,' said Fuller. 'Not a monster, but a very graceful machine, with beautiful lines, lozenge shaped, but with two clumsy-looking wheels behind it.' This petrol-driven leviathan weighed 28 tons, mounted two 6-pounder cannon (or four machine-guns) and was covered in a carapace of half-inch-thick steel armour. It moved very slowly – rarely more than 4 m.p.h. – and its strange parallelogram shape was designed to give it the best chance of crossing ditches up to 10 feet wide and mounting obstacles 5 feet high.

It would be nice to think that this moment – Fuller meets tank – was recorded at the time as the apotheosis that it was. In fact, it took some months, until December 1916, for Fuller to be transferred to the

headquarters of the Machine-Guns Corps Heavy Section (a cover name for the new Tank Corps) and for him to realise that this posting would not be some backwater but a turning point in his career that gave him a chance to display his tactical genius.

Once at the chateau of Bermicourt, he and other officers of this new force got to know one another. A fellow pioneer described Fuller perfectly:

> A little man with a bald head, and a sharp face and a nose of Napoleonic cast, his general appearance, stature and features earning him the title of Boney. He stood out at once as a totally unconventional soldier, prolific in ideas, fluent in expression, at daggers drawn with received opinion, authority and tradition . . . He was neither an administrator nor probably a good commander, but just what a staff officer ought to be, evolving sound ideas and leaving their execution to others.

Fuller was thirty-eight years old when he began working at Bermicourt, and his trajectory through the army had been neither smooth nor harmonious. Apart from his early experiences in South Africa, his job interested him little during his years as a subaltern. Instead, he had immersed himself in philosophy and developed a fascination with the occult. He found mess rituals tedious or even stupid at times, and even despised much about soldiering in the light infantry. It was largely to escape this routine that he had applied for a place at the Staff College, where at last his formidable brain began to apply itself to the military problems of the day.

It had only taken a visit to an artillery demonstration on Salisbury Plain to set Fuller thinking about the power of heavy guns. Since they and machine-guns could sweep away almost everything, the relative importance of infantry and cavalry would be dramatically reduced – something a hierarchy drawn largely from these two arms simply refused to recognise. As a Staff College student, Fuller dissected such problems with a clarity and lack of tolerance for waffle that disconcerted his instructors. Finding a vague reference to 'the principles of war' in the Field Service Regulations but no definition of what they were, he set out (as someone who'd read the thirty-two volumes of Napoleon's correspondence cover to cover) to define them. This brought him into conflict with the commandant, who told him that it was not his job to rewrite a manual that was the nearest thing the army had to a tactical bible.

It wasn't simply that Fuller couldn't suffer fools, it was that he often chose to mock them, even to their faces. Sent in 1914 to work for a crusty old general moving troops about after the war had started, Fuller was asked by his chief to consider the problems that might be caused by millions of sheep blocking the lanes of southern England in the event of a German invasion. The general told his staff man to order up some signs proclaiming, 'Sheep are not to use this road'. Fuller replied, 'But what if the less well-educated sheep are unable to read them?' This piece of insolence produced a posting to the Western Front. There Fuller developed his ideas, publishing more papers; but on one occasion his ideas about defensive tactics were suppressed by the War Office on the grounds that, if published, they would be useful to the enemy.

The General Staff orthodoxy in August 1914 was that the new weapons made frontal attacks too costly and that envelopment must be tried instead. But the emergence of a long, snaking, muddy front line from Switzerland to the Channel had resulted in there being no flanks to turn. Instead, the belligerent armies grappled for years like exhausted, bloodied, bare-knuckle fighters, with neither able to gain the upper hand.

Fuller began to write about the tactics of penetration – how British troops might punch their way through German trench systems. Much of his early focus, in common with the prevailing discussions in Allenby's HQ, was on preliminary artillery barrages. But by the time he reached Bermicourt, at the end of 1916, Fuller had realised that the tank 'was the unknown *x* in the equation of victory. All that was necessary was to get people *to see* the problem.'

He was not in charge of the new corps – that honour fell to Hugh Elles, a Royal Engineer. And Elles had brought in several other sappers to help get things off the ground in one of the last great episodes of engineer brains being used to help a befuddled British General Staff embrace the fruits of the industrial age. Fuller's job, though, was pivotal in devising how the new machines would be used. He was able to formulate what armies these days call 'doctrine'. While some visionary documents had already been written about the use of tanks, Fuller wasn't shown them, so he worked with a clean sheet of paper.

The nickname 'Boney' became general at this time, and one suspects there was a measure of mess irony behind it, for although brother officers thought Fuller immensely clever and wickedly funny, he hardly

looked like a great leader of men, while he was tackling ideas that would normally be the province of generals. As an ardent student of the Emperor's campaigns, he was flattered by the nickname; it does not seem to have occurred to him that he might only be Boney in the same way that an outsize lummox could be 'Tiny' or a bald recruit 'Curly'.

During the latter part of 1916 and early 1917 the new corps received scores of new tanks and thousands of troops. Elles, Fuller and the others had to train the men to use these new beasts, while getting their generals to understand their potential and limitations. Small numbers had been employed in 1916, and a few dozen joined Allenby's Arras offensive in April 1917, but the Tank Corps people were formulating plans for the new weapons to be used *en masse*.

'Though the Germans gave us a lot of trouble,' Fuller would later declare, 'Sir Douglas Haig and his phenomenally unimaginative General Staff gave us infinitely more.' This might seem like a typically acerbic Fuller jibe, but one example serves to show its justice. Fuller had drafted a manual called 'Training Note No. 16' which set out how the tank should be employed in battle. He saw its main purpose as pushing beyond the enemy's first trench (a job for the infantry) and into the second and third defensive belts, from where the Germans usually counter-attacked, thus making impossible such a counter-stroke. To allow the tanks to do this, the battlefield had to be left free of the huge craters that resulted from prolonged opening barrages, a form of preparation that anyway denied the attacker the element of surprise. 'Experience has definitely shown', said Training Note No. 16, 'that such a bombardment should not exceed 48 hours.' This was precisely the same issue that had caused Allenby's row with GHQ before Arras, and it so incensed Haig's staff that they ordered every copy of Fuller's new manual to be recalled and suppressed. The Tank Corps ignored this instruction, but other HQs obeyed it, which meant that the various corps and army commanders lost their guidance – from the experts – about how the tank could be used to best effect. Since Haig would also not have a tank adviser posted to GHQ (the artillery and engineers were represented there), its ignorance remained almost total.

When the Tank Corps began lobbying during the summer of 1917 to use hundreds of tanks in a 'raid' on the German front, GHQ reacted with suspicion. Haig did not like the idea of Elles having his own show, thinking the new corps was getting ideas above its station. The C-in-C

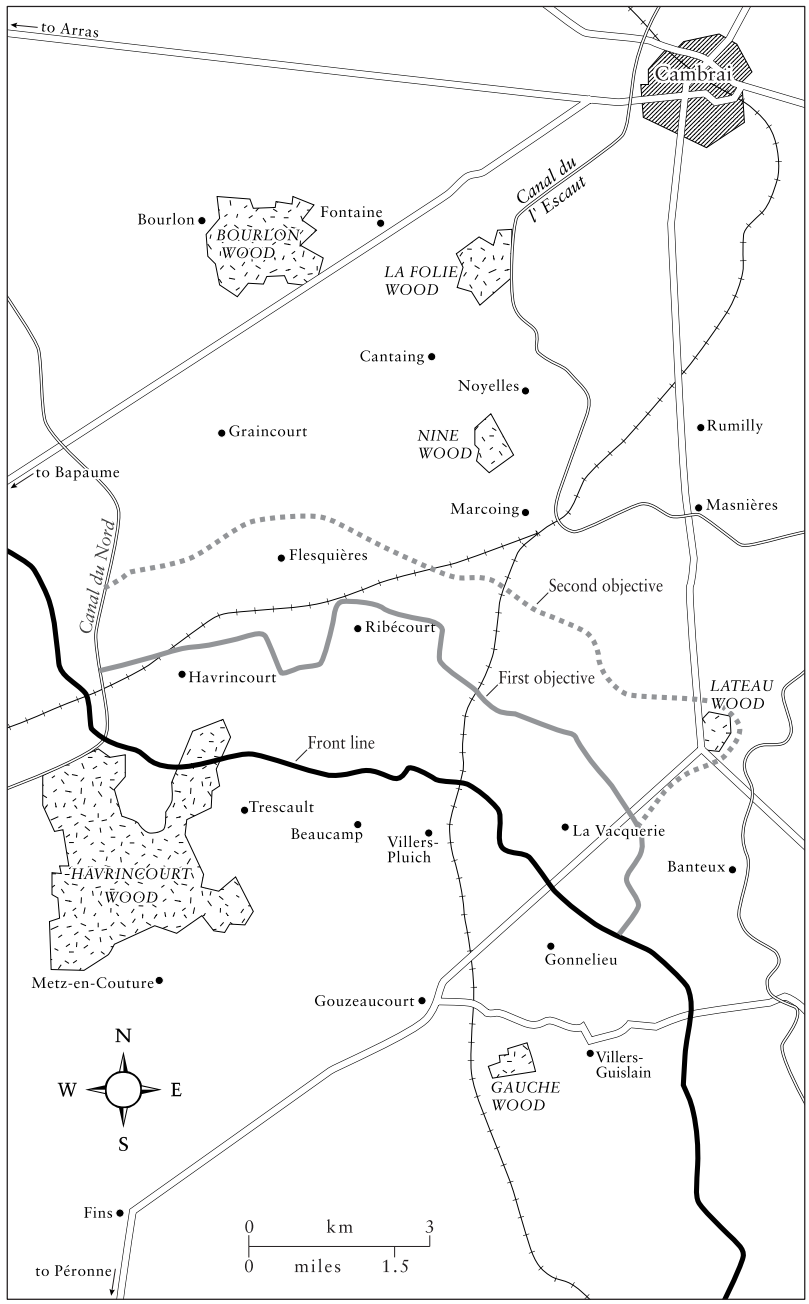
wrote in September 1917, 'In its present state of development the tank is an adjunct to infantry and guns.' He bridled at the Tank Corps' advice about the geographic preconditions for a successful attack (i.e. in terms of the softness of the ground and its moisture), telling them firmly that such considerations would be a 'minor factor' in his determination of where to mount an offensive. It did not seem to occur to the prickly Haig that the tank people were not trying to tell him where to fight his battles, only where he might use tanks to the greatest effect in them.

By late 1917 there were, however, enough corps and army commanders who had heard about the potential of tanks to result in an idea being formulated for a mass use of tanks in a thrust towards the town of Cambrai. Indeed, the emergence of the plan for this offensive can be seen as evidence that Haig had lost some of his control over subordinates who were desperate to try tactical innovations, whether GHQ liked them or not.

Fuller had mixed feelings about this: he was delighted that hundreds of machines might be used in concert, but alarmed that plans originally conceived for a single day's raid across enemy trenches were now being put into effect for a full-scale assault on the Hindenburg Line. The colonel took the unusual step of putting his concerns to Elles in writing. The plan lacked any preparation for a sustained fight, instead throwing all the tanks forward on day one, so Fuller warned, 'To fight without a reserve is similar to playing cards without capital – it is sheer gambling.'

Elles, though, being the pioneering tank-leader he was, had seen his opening and was going to take it. On 19 November 1917 he issued an order to his units massing in the Cambrai sector: 'Tomorrow the Tank Corps will have the chance for which it has been waiting for many months – to operate on good going in the van of the battle.' In a deliberate contrast to usual Western Front generals' practice, Elles signed off, 'I propose leading the attack of the Centre division.' Boney, incidentally, thought Elles was doing the wrong thing by going into battle personally, but later wrote, 'He was right and I was wrong,' a sentiment that one will struggle to find anywhere else in Fuller's vast output of forty-five books and hundreds of articles.

So it was that early on 20 November 1917 Elles and thousands of other crewmen mounted up and 476 tanks moved forward for the first great armoured assault in history.



The Cambrai offensive, 1917

The tank attack at Cambrai came, like so many of the war's 'big pushes', out of the dawn murk. Tanks led the advance across six miles of front, there being roughly one every hundred yards. There had been no preparatory bombardment at all, a precaution that prevented excessive cratering and, in the early moments of the attack, gave the British complete surprise.

Inside each machine were eight men. The noise from the engine, exposed in the middle of the compartment, was deafening, and the 'bus' quickly heated up like a bath house, despite the autumn chill outside. Drivers looking through their ports could see the German defences ahead of them. Three belts of barbed-wire entanglements, each twelve yards deep, lay in front, and these were wreathed occasionally in sparks from machine-gun bullets that ricocheted as the Maxims began their chattering. The barbed wire was untouched due to the lack of bombardment, so everything was down to the tanks. Private Bacon, at the controls of a tank with the name 'Early Bird' painted on its side, opened the throttle and ploughed on: 'As we crawled on in front of the infantry and demolished the knife-edged wire entanglements, the bus was spattered repeatedly with hysterical left and right sweeps of machine-gun fire. The whole panorama now was just like a set piece of thousands of fountains of fire spurting from the solid earth.'

In many places deep ditches had been dug beyond the wire. These were far wider than the usual fire trenches and were intended to stop tanks. Every machine in the British first wave, however, had a huge bundle of wooden branches called a fascine lashed to the superstructure just over the driver's head. When they reached the obstacle, the fascines were released, tumbling into the ditch and providing the tanks with a way across. A gunner on each side of the tank opened his hatch and planted a red flag before the machine trundled across. The flags marked the position of the route to drivers of tanks that followed. Certainly, there was no shortage of ingenuity in the attack plans.

The British artillery laid short, sharp barrages on the German trenches as the first attack wave crossed no man's land. These worked well, hitting those who had come out of cover to open up at the Tommies. The thousands of infantry who walked to the rear of the land ships were so relieved at the lack of German counter-bombardment that many lit up cigarettes as they trudged along. When the tanks approached the first enemy fighting trench, those directing the artillery pushed the guns' fall of shot deeper into the German position.

'The surprise had been complete and our artillery overwhelming,' wrote one infantry officer who accompanied the attack. 'The reply of the German guns was negligible. The sight and certainty that they had been taken unawares produced in one a sense of supreme exultation. On the slope opposite tanks showed up like small dull-coloured huts endowed with movement; as they advanced we could see the flashes of their 6-pounders along a line which stretched out of sight both right and left.' This exultation – which one tank officer would write home had him laughing uncontrollably for hours inside his machine – had its counterpart in total demoralisation in the enemy lines. 'Our machine-guns fire incessantly and then rifle and grenade fire is added,' wrote one German officer, 'but [we] must admit all our efforts to stop these tanks ineffective. We can do nothing against them.'

In many places the German infantry broke and ran – it was dubbed 'tank-fright'. Once the first elements were over the first trench and into the Hindenburg Line, the same effect was produced at an organisational level. A British officer sent forward to interrogate enemy prisoners reported: 'Without exaggeration some of the infantry seemed to be off their heads with fright. It was impossible to obtain any clear idea of the situation. There was no chain of command and no orders.'

While this devastating attack unfolded, Fuller spent the morning at Tank Corps headquarters, awaiting reports. Such was his ceaseless industry that he began working, then and there, on notes for a visionary scheme on how tanks could win the war. It would later be called Plan 1919.

British attacks had, by mid-afternoon on 20 November, gained five miles in places. The original operational order had said, 'If . . . we are successful in overrunning the enemy's line of defence, a unique opportunity for the Cavalry action becomes possible.' For the average infantry officer, this was yet another promise of action by a cavalry force that had been pampered through the war and spent three years waiting for a 'unique opportunity'. Since Haig was an old-school cavalry officer, such phrases were always well received at GHQ.

The cavalry 'exploitation' at Cambrai proved to be the same kind of damp squib that it had been in all previous Western Front battles. Fortunately for the men concerned, though, their check was not as bloody as it had been at Monchy during the Arras battle. Instead, the cavalry got over the first German defences (where tanks specially equipped with grapples dragged all of the wire out of their way), but

then found themselves blocked by more barbed wire and machine-gun fire, and unable to take villages in the German rear. In one place, a blown bridge put paid to the advance of a cavalry division. One Tank Corps major told his wife he had witnessed 'a great deal of clattering, galloping and shouting, and a lot of our medieval horse soldiers came charging down the street'. In Fuller's new mob, the ordinary soldier's scepticism about cavalry was being refined into a profound contempt.

It will come as no surprise, though, that having suffered such a heavy initial blow, the German high command soon regained its balance and began to reorganise. British attempts to gain more ground started to flounder. At Flesquieres an attack by the 51st Highland Division, supported by tanks, came to grief. The German divisional commander, an artillerist, had trained his field-gun crews in anti-tank firing techniques, and they played havoc with D and E battalions of the Tank Corps. In one engagement a dozen tanks were knocked out in a few moments.

British plans had called for the withdrawal of some tank units after forty-eight hours. In places, they were packing up and leaving as German counter-attacks began. Now the lack of a tank reserve was bitterly felt, as was confusion in the British high command about how the gains at Cambrai should be consolidated. A full-scale German counter-attack on 30 November forced back the British in places. However, the first phase of the Cambrai offensive was judged a success, having gained similar advances to Arras but for less than one-tenth of the casualties. But in many respects it produced an opportunity that was squandered. For a time, Haig's position looked threatened.

In the months that followed, Fuller refined Plan 1919 from an appeal for the production of thousands of new Medium D tanks into a manifesto for revolutionising the army. The document was presented to the War Office in May 1918 and is worth examining at some length since it was perhaps the finest and most influential document Fuller ever wrote.

In 1914 firepower had become so powerful that soldiers could not protect themselves against it, except by skulking in immobile trenches. The tank offered to change everything since it combined firepower, mobility and protection. The petrol engine, wrote Fuller, 'enables men to discharge their weapons from a moving platform protected by a fixed shield'. Since tracked vehicles could travel across 75 per cent of

the countryside, 'He who grasps the full meaning of this change, namely, that the earth has now become as easily traversible as the sea, multiplies his chances of victory to an almost unlimited extent.' Fuller knew that his advocacy of tank warfare had already brought conflict with other parts of the British Army – it was, after all, a battle for men and money. In Plan 1919 he admitted frankly that tank warfare, being new, 'has been grafted on to a system it is destined to destroy'. He predicted that infantry 'will become first a subsidiary and later a useless arm on all ground over which tanks can move'.

In order to show that a large-scale increase in the Tank Corps could win the war, Fuller described how massive armoured offensives might be conducted. He identified the enemy command structure as the brain of an opposing force and supply troops as its stomach. The essence of tank warfare should be to strike deep at these vital organs. 'Our new theory should be to destroy "command", not after the enemy's personnel has been disorganised, but before it has been attacked, so that it may be found in a state of complete disorganisation when attacked.'

Plan 1919 was intended to convince generals and politicians, so it used powerful metaphors – whether of naval warfare or describing the enemy army in terms of the body. It also drew on history, Fuller arguing that armoured forces would be used to exploit success and clinch victory in much the same way that Napoleon used his Old Guard. To many in a tradition-bound army, this must have seemed like bare-faced cheek, since it elevated the army's newest corps into the position of its most cherished supreme reserve.

Looking further into the future, Fuller argued that 'infantry will be next to useless', although he allowed them roles of assisting in the initial penetration of an offensive, operating where tanks couldn't go, occupying areas conquered by tanks and protecting rear services. He did not view armoured vehicles as the be all and end all, foreseeing that aircraft would grow rapidly in importance. 'As the mobility of the tank increases,' he suggested, 'so it will have more and more to rely on the aeroplane for its security and protection.'

With plan 1919 Fuller's reputation as a visionary or prophet of war really began to take off. Initially, of course, only a few people in the War Office saw it. But Boney was a tireless advocate, firing off numerous letters and plans as well as lobbying key officers and politicians face to face.

However, as he emerged as the leading tank evangelist, the climate for using these machines on the Western Front suddenly deteriorated. A German offensive in the spring of 1918 caught out the British very badly, and a shaken Haig temporarily abandoned ideas of renewed advances. Even before the enemy blow, which seriously dented British morale, Haig ordered tanks scattered about the lines, with the idea that they could be concealed in pits and emerge to launch local counter-attacks – a concept Fuller derided as turning his beloved machines into 'savage rabbits'.

The last months of Fuller's war were destined to be spent in London in an annexe of the War Office lodged in the National Liberal Club – next to Charing Cross Station. He was in charge of the London staff of the Tank Corps, a post that Elles had convinced him was vital to the corps' future. Fuller's tactics in the bureaucratic fighting were, as one might expect, powerful and innovative, but they also contained many risks for him. After the German spring offensive, for example, he set down in a memo his view that 'our army is crawling with "duds"; though habitual offenders, they are tolerated because of the camaraderie of the old Regular Army: an Army so small as to permit of all its higher members being personal friends. Good-fellowship ranks with us above efficiency.' This chimed in well with the views of many middle-ranking and junior officers, some of whom idolised Boney. It also appealed to a handful of generals who knew it was true. Nevertheless, such invective alienated many senior officers for whom 'disloyalty' was a cardinal offence.

Increasingly, Fuller couched his arguments in terms of scientific truth. This fitted perfectly with the Zeitgeist, and indeed he had been influenced by the writings of Darwin, Hegel and Spencer. These passionate 'modernise or die' polemics excited many but also increasingly stimulated an emotional response from his opponents. Senior cavalry officers saw themselves as engaged in a struggle for survival, and many in the infantry were nettled by Fuller's predictions about their future irrelevance. As the Western Front guns fell silent in November 1918 it could not yet be said that the forces of reaction had quite gelled. But this was largely only because Fuller's intellectual trajectory had not yet reached its zenith, either.

As the war ended, Fuller was challenging an idea that had held sway since Waterloo at least: that the leadership of the army was based on character. Fuller ridiculed the 'good-chap' school of command, arguing that modern war demanded brain power refined through

professional education. This proposition provided the subtext for an argument that would break out in the twenties about mechanisation.

Fuller knew he had found his mark when one general burst into his room at the War Office during the summer of 1919, saying, 'Boney! Boney! What *have* you done?' What he had done, as a colonel heading a relatively minor section within the bureaucracy, was write an essay that won the 1919 gold medal at the Royal United Services Institution (RUSI). This body, a sort of officers' club where professional discussions *were* tolerated, had set as its topic the impossibly dry-sounding 'The Application of Recent Developments in Mechanics and Other Scientific Knowledge to Preparation and Training for Future War on Land'. Entries were submitted anonymously, and judged by a panel of senior officers. Fuller's victory ought to have been good news, but there was a good deal of consternation when it became apparent not only that he had won but that his essay had gone far beyond narrow matters of mechanisation. 'To my profound enjoyment the War Office was upheaved,' he wrote later.

The essay began with the motto, 'Racehorses don't pull up at the winning post,' followed by the statement: 'To understand the past and to judge the present is to foresee the future.' Through a series of sections – 'Foresight', 'Imagination' and 'Energy' – Fuller asked the army to think carefully about what it had learned during 1914–18, and to apply it relentlessly. As with Plan 1919, his ability to identify common experience, synthesise it into lessons for the future and then develop these to their ultimate conclusions produced some remarkable insights. His statement, for example, that 'it is fighting power that we want and not numbers of men' can be seen as anticipating the central quest of post-1945 defence policy in Britain and many other countries. Similarly, his conclusion that the power of new weapons necessitated a Ministry of Defence to concert the efforts of Admiralty, War Office and newly formed Air Ministry preceded the actual event by decades.

By advocating wholesale change – the creation of a New Model Army, no less – Fuller, though, threatened to touch off open conflict between different empires within a contracting organisation. His essay was also laced with barbs about the army leadership, its shallow learning and its failure to digest the war's lessons. It reads oddly today only where Fuller gives vent to his enthusiasm for chemical warfare and predicts its widespread further use.

The First World War had finally ended because of German exhaustion. The Allies, notably France and Britain, had been able to endure a little more punishment and had been aided in the last stages by (limited) American intervention. But the USA was one of the few societies to emerge with its self-confidence enhanced by the European holocaust. The stresses of massive mobilisation and the loss of millions of young men proved to be a wrecker of the old social order. German and Ottoman empires had been dissolved. Russia had buckled, and the Tsar had been overwhelmed by a revolution. In France and Britain the old systems of authority had been shaken to their foundations.

One reason why Fuller's writings gained him a wider reputation so quickly was that they resonated with a wider public feeling of alienation from the army leadership. This also produced a popular reluctance, lasting many years, to spend money on war preparations. The country had lost 744,000 dead and, due to the unprecedented call-up required to keep the war going, great swaths of society had for the first time become familiar with the way the army was run. Familiarity had bred contempt for the generals. Of course, Fuller was no pacifist, offering to abolish war, but he was at least promising smaller armies, faster wars and lower casualties.

When the vast conflict had ended in 1918, the War Office had collapsed, in Fuller's memorably pithy phrase, 'like a jelly thrust into a hot oven'. Its energies were taken up with demobilisation, and little had been done about what shape of forces the draw down would finally produce. Summoned in front of one committee of worthies, Fuller was asked questions that he considered facile. When one general enquired, 'How many hours a day can a tank run?' Fuller's reply, deadpan, was 'Thus far we have never exceeded twenty-four.' Some considered him an arrogant upstart, but what a pleasure it would have been to be a fly on the wall at that meeting, as he treated the committee with all the contempt of some real-life Blackadder.

The apparent inability of the War Office to contemplate its own future seriously produced a campaign of what Fuller termed 'propaganda' for his new ideas. 'I knew I should create enemies,' he wrote later, 'yet without a sturdy opposition it is most difficult to explode deep-rooted absurdities.' Those in the General Staff who considered him a pain knew that the danger presented by Fuller's revolution was that some politician (like Churchill, an important early advocate of the tank) or some foreign army might embrace it. This is precisely what happened.

When the French Army ordered Fuller's prize-winning essay to be translated and given to every senior commander, tension inside the War Office rose. So impressed were the French with it that they invited Fuller to join their intellectual elite, as a member of the Academy. 'The fat was now fairly in the fire,' wrote Boney. 'I was forbidden to accept the honour and simultaneously forbidden to refuse it, because that might insult the President of France.' Someone with a lesser sense of mischief might have been tempted to lie low for a while, but not Fuller.

He entered – anonymously, of course – the next RUSI naval-essay gold-medal competition, and won. Inevitably, there was shock that a magisterial *tour d'horizon* of future war at sea had been written not only by an army man (who had the nerve to put as his motto at the beginning '*Veni Vidi Vici*' – 'I came, I saw, I conquered') but by Fuller, of all people. Pressure within Whitehall had reached the point that the RUSI refused to publish the essay or award the colonel his second gold medal.

While all this was going on, and just to keep the army pot boiling, Fuller had written an article for the *Cavalry Journal*. By his standards, it was quite tactful, but its message that senior officers of that branch were guilty of 'mental lethargy' – and evidently needed a tank man to do their thinking for them – produced a vigorous response. A debate had now been joined in earnest. For instance, one cavalry officer argued that Allenby's skilful use of divisions of horse soldiers in Palestine showed they could still be effective on the modern battlefield.

In an attempt to clear the air, a debate on the role of tanks was held in December 1920 at the Senior Officers' School in Woking. Churchill, no less, was in the chair as Fuller matched wits with Lieutenant General Philip Chetwode, who had been Allenby's smartest corps commander in Palestine. While there was no winner as such, the audience went away impressed by the quality of both speakers. Allenby himself did not weigh into this controversy, although it can be argued that his campaigns in the Middle East made him eminently qualified to pontificate about mobility or air power. Instead, Archibald Wavell became Allenby's military evangelist, a moderniser who avoided rhetorical extremes, and later, in the North African desert, (initially) showed himself a skilful commander of mechanised forces.

All of this, though, lay well ahead in the early 1920s, when the government formally adopted a doctrine that assumed it would have at least ten years' warning before a major war. Fuller carried on building his reputation, at home and abroad, as something of a military

celebrity by publishing a book on tanks in the Great War in 1920 and another on his broader ideas about the future of conflict called *The Reformation of War* in 1923. In the latter he argued that 'The true purpose of war . . . is to enforce the policy of a nation at the least cost to itself and the enemy.' Many of his concepts about mobility and the profound effects of mechanisation were laid out again in this work. He also unveiled a general scheme of operations, 'the defensive-offensive', declaring that the most efficient form of fighting was to allow your enemy to develop their attack up to the point that they had shown their intentions and committed themselves before launching your own main effort. With *The Reformation of War*, his visionary ideas would reach many people who had been ignorant of Plan 1919.

Although there were many generals who disliked Fuller and his tactic of publishing his ideas to both military and civilian audiences, it is important to note that even in 1923 his trajectory was still upwards. He was appointed Senior Instructor at the Staff College early in that year, and three years later Military Assistant to the Chief of the Imperial General Staff. Both of these were jobs for army high flyers.

The First World War's catastrophic loss of life had produced a yearning for change in the middle levels of the army, and a crisis in confidence at the top. Whatever Fuller's barbs about the leadership, some of them supported him, and Britain still possessed in its Royal Tank Corps an armoured force that no other nation could match. It was not as if Germany and Russia were, in 1923, turning out vast numbers of tanks (or, indeed, any at all). In many ways, then, Boney's early years in the Tank Corps demonstrated how open the British Army was to new ideas, even if its leading exponent was a troublemaker. After his 1926 appointment, however, his career began to unravel.

While still teaching at the Staff College, Fuller had been refused permission to publish his lectures on theoretical matters as a book, *The Foundations of the Science of War*. He requested an interview with the Chief of the Imperial General Staff, who explained that he did not want serving officers publishing books that might undermine the army's manuals. 'This small incident,' Fuller reflected later, 'more so than any other, brought me to realise how far I had outgrown the Army.' Increasingly, this feeling became mutual.

Field Marshal Lord Carver, a tank officer who wrote Fuller's entry in the *Dictionary of National Biography*, considered that sending him to Staff College had been a 'disastrous posting', because it removed

him from practical matters and allowed his writings to become 'more theoretical, complicated, less likely to be implemented'.

When *The Foundations of the Science of War* was eventually published in 1925, it provided Fuller's growing band of enemies with an excellent opportunity to cut him down to size. The book contained a series of theoretical propositions about the nature of war, and claimed that it could be studied as a science in which certain absolute truths could be deduced. It aroused a vitriolic attack in the *Army Quarterly* in the form of an unsigned review (written by Brigadier John Edmonds, a staff officer who would later write the official history of the 1914–18 war). Edmonds began, 'The danger of such a book is that the young should take it seriously,' and continued, 'He who can, does; he who cannot, teaches.' Fuller had made a great mistake in confusing lecturing with writing, Edmonds believed: 'The mental acrobatics, striking paradoxes and funny epigrams necessary if a teacher of little personality is to keep the attention of his hearers are out of place in an argumentative work.' As for the principles elaborated by Fuller, Edmonds considered them either statements of the obvious or complete balderdash.

Captain Basil Liddell-Hart, himself an up-and-coming theorist of armoured warfare, wrote to the *Army Quarterly* to complain about the hatchet job. The journal's editor allowed Liddell-Hart to defend Fuller's book with an unsigned article in the next issue, but added his own damning endorsement of Edmonds, writing: 'Colonel Fuller has the knack of making simple things appear difficult, and the ordinary man has neither the time nor patience to puzzle his brain.'

Many officers of conservative cast were delighted with the exposure of Boney's ideas as, appropriately enough, the emperor's new clothes. General Archibald Montgomery-Massingberd (destined to take over as Chief of the Imperial General Staff in 1933) wrote to Liddell-Hart, 'I hope someone will stop [Fuller] making such an ass of himself.' Even within the Tank Corps support for him began to falter. One senior officer writing in 1925 noted, 'He is inclined to "lecture" – or rather one gets the feeling that he is under the impression that no one else has thought about tank tactics at all.' A few years later, an erstwhile member of Fuller's 1917 team at Bermicourt commented bitterly, 'Having done so much to get the Idea going, he has dropped completely out of the work of turning that Idea into reality.'

The post-war freefall in the army's self-confidence had been checked. New blood and new ideas were required for war in the industrial age,

but many senior officers came to the conclusion that Fuller's insistence that 'character' be replaced with 'intellect' in army promotion was a false alternative. The prime quality that was needed was 'efficiency': men with good minds but able to cooperate fruitfully with their colleagues. Prima donnas were not required, and increasingly that's how Fuller was seen. The new wave was represented by types like Wavell at the senior level and Montgomery in the middle. Indeed, the latter followed a couple of years after Fuller as an instructor at the Staff College. Monty was gaining a reputation as a great 'trainer', someone who could enthuse ordinary soldiers with understanding and a sense of purpose in their mission.

As for the more theoretical stuff, increasingly it was to Liddell-Hart that many tank pioneers looked. Having left the army in 1924, he became a highly influential newspaper correspondent. His thinking – in many ways quite as clever as Fuller's – remained applied to the nitty-gritty of mechanised war. Many of his ideas arose from his basic concept of the 'indirect approach', which castigated Great War generalship for attacking the strongest sectors of the enemy line and argued instead that armoured forces should bypass the opponent's chosen fighting grounds, using superior mobility to flow along the line of least resistance.

Through a combination of intellectual vanity and pursuit of ideas to their logical conclusions (up and up from tank tactics to strategy, military science and the stratospheric heights of policy and even futurology) Fuller, by contrast, dissipated his support and made himself irrelevant to the future of tank forces in his own army. Boney's career effectively ended when the Chief of the Imperial General Staff (in whose office he worked) offered him the plum job of commanding a new mechanised experimental force in December 1926. When Fuller tried, under threat of resignation, to renegotiate the terms under which he would accept this task, his boss replied, 'Don't be silly,' and effectively wrote him off.

Fuller had seen the experimental force as being of equivalent importance to the future of the army as the Light Brigade formed in Shorncliffe in 1804. Incidentally, he had knocked off a book on Sir John Moore's training methods during his time at the Staff College. At one point, he even complained that he was not being given permission to fire officers as Moore had been in 1804, but this was no more than petulance, for Boney did not measure up to Moore (let alone his nicknamesake) as a leader of men and the Chief of the Imperial General

Staff could, after all, reflect that the army had moved on somewhat in its management of officers' careers. It is only worth noting that in the 1920s there was no all-powerful patron, as the Duke of York had been, for new tactics. Fuller should have learned enough from his study of history to appreciate the difference between his own position and Moore's in the early nineteenth century.

As a prolific author, with admirers in many foreign armies and in academia, Fuller had forgotten what made him special in the first place – his unique grasp of the effect of advances in weapons technology on tactics and organisation. The sense of acclaim his ideas inspired from those in the wider world had, however, been lost by the great majority of British officers. Many had never liked him; others were alienated by his arrogance, inflexibility and sarcasm. Thus he lost the chance to remain an influential player at precisely the time that armoured warfare was about to become vitally important once more. Fuller, who had married in 1906 but remained childless, lost his sense of perspective, and was indulged by his wife as he increasingly struck the poses of intellectual martyr and middle-aged grump.

Between his bungling of the experimental force appointment and his retirement from the army in 1933, Fuller commanded an infantry brigade, was promoted to major general and refused a second-rate job in India. His cue to leave the army was the appointment of Montgomery-Massingberd as CIGS. The latter was an utter reactionary in the debates over modernisation and command, having commented, 'Character is more important than brains.' It was particularly unfortunate for the army that someone like him should have taken over just when a new commitment to tank warfare was most needed.

In 1932, the British Army had ordered just nine tanks – and even these were pathetic little affairs, weighing less than four tons. Racehorses, Fuller had written in 1919, don't pull up at the winning post. Britain's knackered runner in the armoured warfare race found itself riderless. Fuller turned his back on his own army, giving himself over increasingly to right-wing extremism, rejection of parliamentary democracy and bitter reflection of what might have been.

For Fuller, 20 April 1939 was a memorable and delightful day. The Foreign Office had urged him not to go to Berlin at such a sensitive time, but bugger them. As an honoured guest of Adolf Hitler, Boney had been given an excellent seat from which to watch the morning's

procession of Germany's reconstructed army. It had been so impressive that the only issue was one of stamina. 'For three hours', Fuller wrote breathlessly, 'a completely mechanised and motorised army roared past the Führer.' Ensigns carrying the colours of every regiment had been formed into a great phalanx of fluttering standards, dipping them in homage as they marched past Hitler's stand. Fuller watched from directly opposite as the pageant to celebrate the Führer's fiftieth birthday reached its crescendo.

The Nazis were masters of such displays, laying on something stirring for everyone. For many patriotic Germans it was the military oompah bands. Committed Nazis, on the other hand, revelled in the party regalia of swastikas, brown shirts and, afterwards, beer-cellar songs. Fuller shared in some of this ideological excitement, describing fascism as 'a universal philosophy', but it was the tanks that really sang to him. Hundreds of them had come past the reviewing stands, assaulting the senses with their rumbling weight, revving engines and diesel smell.

That afternoon, at the Chancellery, the British general was lined up with other foreign dignatories and admirers, as the Führer received them. Hitler seized Fuller by the hand and, knowing what he would have enjoyed in the parade, asked, 'I hope you were pleased with your children?' Fuller replied, 'Your Excellency, they have grown up so quickly that I no longer recognise them.'

Fuller's intellectual journey to Berlin was the ultimate example of the way in which he followed his ideas to their conclusions, even if it ruined him. Frustration at the way the War Office was run in the twenties led him to examine decision-making at the highest level. Fuller became convinced that the constraints imposed by Britain's noisy democracy made it impossible for the army to be modernised. His longing for strong leadership and contempt for Parliament drew him ever further to the right. He had joined the British Union of Fascists in 1934 and harboured an ambition to be Minister of Defence in a government under its leader Oswald Mosley. By 1939, the possibility of such a regime being voted into power in Britain was nil, and one can only shudder at the thought of what would have happened if Hitler had conquered the country and looked for collaborators.

Boney had entered into the fascist idea without reservation. His contribution on the 'Jewish question', published in a fascist magazine in 1935, was entitled 'The Cancer of Europe'. One of his biographers

has suggested, 'The proliferation of these [anti-Semitic] distortions and smears was no doubt the price Fuller thought he had to pay for the power and influence which the establishment of a fascist state would have given him.' This is a very generous conclusion, because the facility with which Fuller made anti-Jewish jibes in letters and books suggests pleasure rather than duty.

The embrace of fascism and the journeys to see Hitler cost Fuller a great deal. The *Daily Telegraph* had rejected his services as military correspondent because of his politics; his friendship with Liddell-Hart dried up; and when the war finally began, an attempt by the then Chief of the Imperial General Staff (an old patron of Boney) to bring him back into uniform as a deputy chief was swiftly vetoed by the government.

In 1939 and 1940 Fuller published two volumes of military history, *Decisive Battles of the Western World*, which marked his last important intellectual legacy. He wrote many newspaper articles, but his wicked pen was so well suited to attacking the orthodoxies and leadership of the forces that once the tide of war turned his inspiration seemed to dry up. In general, though, he sat out the Second World War as a spectator and lived out of the public eye until his death, writing just the occasional newspaper column to supplement his pension.

Not long after the war began, the US military attaché in London invited Fuller to lunch. The American brushed aside an MI5 health warning, evidently wanting to meet the grand old man of mechanised warfare for himself. He was disappointed, though: 'Fuller is now a very little, old, wizened-up man, who is bitter and outspoken against the War Office, the British government, and the way the war is being conducted.'

Fuller's historical legacy lies in his influence. It is, of course, very hard to be certain how and why people change their minds, for they are often unaware of it themselves. The position is further complicated with Fuller by the fact that much of what he wrote, for instance between 1916 and 1923, about the effects of mechanisation on armies has become received wisdom. As if this is not enough, as Fuller's mind brewed up stranger, less palatable stuff in the 1920s, Liddell-Hart took up the business, making his own vital contribution to blitzkrieg theory. The gritty malt of Fuller's original propositions therefore became blended with the product of another man's intellectual ferment.

The simplest and most poignant truth about Fuller is that he had ideas about tanks that were better applied by the German Army than by his own. This is the stark reality behind Hitler's comment in 1939 that his new panzer armies were 'Fuller's children'. General Heinz Guderian, architect of the mechanised army that crushed Poland in 1939 and France in 1940, wrote that in the 1920s, when he was conceiving his plans, 'It was principally the books and articles of Englishmen, Fuller, Liddell-Hart and Martel [another Tank Corps veteran], that excited my interest and gave me food for thought. These far-sighted soldiers were even then trying to make of the tank something more than just an infantry-support weapon.' In the early 1920s Germany's senior officers dreamed of tanks, and they did so because of Cambrai and Fuller. He had shown them what tanks were for.

Later, during the 1930s, Guderian had to defend his corner against German infantry and cavalry generals who had their own views about the future of armour. Undoubtedly, at this stage, when he and like-minded officers in every other major European army were trying to create armoured divisions and prevent tanks being scattered in penny-packets for infantry support, Liddell-Hart became the more influential guru.

Some of those who have questioned the validity of Fuller's vision have also pointed out that the German blitzkrieg army of the early war years was far from being the all-tank force that the Englishman had advocated. In fact, it was only slightly mechanised. When Hitler's army invaded Poland, it was sustained by 199,000 horses. Even in 1945 the great majority of German divisions were unarmoured. However, this is not too relevant to the question of Fuller's legacy, for, in my view, it is wrong to see the Germans either as the ultimate exponents of tank warfare or to think that the kind of vision spelt out in Plan 1919 was ever fully realised by Hitler.

History's greatest tank force was the Red Army. It built and utilised them in vastly greater numbers than the Germans, and used them to bury Hitler's regime. In their later offensives – for example, against the Japanese in Manchuria – Stalin's hordes came closest to realising Fuller's vision of war. The British officer's influence on the Red Army way of war can be traced through the person of Mikhail Nikolayevich Tukhashevsky. In 1931 he wrote the introduction to the Russian edition of Fuller's *The Reformation of War*, and he was the Red Army's principal theorist of armoured warfare. His patronage of Fuller's ideas was a factor of the greatest importance.

'Fuller's great merit', wrote Tukhashevsky, 'is that he does not just study past experiences but, by keeping track of technological advance, endeavours to indicate a direction for the structure and equipment of land forces as a result of which future war might take new, more effective forms.' The Russian general thought Boney a hopeless social reactionary, too obsessed with chemical warfare and not interested enough in paratroops, but he urged Russian readers of the British book to 'pay particular attention to the actions of tanks in the enemy's rear, which, together with a simultaneous frontal assault, must undoubtedly result in more intensive manoeuvre and more decisive tactical action'.

Tukhashevsky had little time for Fuller's more theoretical ramblings, and it is amusing to see the no-nonsense way in which he urged his tank men to bypass this intellectual boggy ground and press on towards more profitable ideas. 'Fuller loves to give his theories of war a philosophical basis,' noted Tukhashevsky. 'However, the philosophical aspect – in fact Fuller's weakest spot – is extremely confused, and there is no point in examining it critically.'

The Soviet moderniser was far more successful in achieving the outcome he wanted than either Fuller or Guderian. By the time he was purged by Stalin and shot in 1937, his country was already engaged in the huge industrial change required to make real the vision of a mechanised army. The following year, the Soviet Union manufactured 2,270 tanks, Germany 812 and Britain just 408. Throughout the war, and despite the disruption of losing many factories in the western USSR, the Soviet tank industry outproduced the German by a significant margin.

One other point of contrast with the Germans must be made: the two armies' tank philosophies. Guderian's practice of bypassing centres of enemy resistance was certainly inspired by Liddell-Hart's concept of the indirect approach. Fuller, however, gave greater emphasis to decisive battles – taking the bull by the horns and destroying the main concentrations of enemy forces. The Soviet sledgehammer that bludgeoned its way to Berlin was closer to that design.

After the Second World War, the Soviet Army finally matured into the kind of all-mechanised force predicted in Plan 1919; even its airborne divisions were armoured, with light tanks dropped by parachute! It remained a very large army, but Marshal Tukhashevsky had been quite explicit back in 1931 that he did not consider Fuller's idea that mechanisation would produce smaller forces to be applicable to the

Soviet Union. The marshal wanted his armies huge *and* mechanised, greedy man.

The giant tank armada that sat across the Iron Curtain, threatening Europe for four decades, was therefore the truest fulfilment of Fuller's dream, made real by Tukhashevsky and his successors. Britain, by contrast, kept the majority of its infantry on their feet and unarmoured throughout the post-1945 period.

As for the actual use of all-mechanised armies (as opposed to the partially petrol-driven ones of the Second World War), the salient examples lie in the Middle East. Fuller died in 1966, a year before Israel's extraordinary defeat of the Arab armies in the Six-Day War. It would have been a nice historical irony for Boney to have witnessed the Jews he despised applying his ideas so successfully. The echoes of Boney's ideas could also be detected in the 2003 American 'shock and awe' campaign against Iraq.

Of course, we have in time realised that armour has all sorts of limitations: it is not quite as mobile off-road as many people believe (as I learned to my cost years ago, bogging my tank on more than one occasion during my brief service in the Royal Tank Regiment, modern descendants of Elles and Fuller's corps); when facing guerrilla fighters in built-up areas, the tank can be a distinct liability, as the Russians discovered in Chechnya in 1994; and in an age of global media the tank can easily come to symbolise, as in Tiananmen Square, the perversion of brute power.

One biographer has called Fuller 'the most intellectually gifted soldier ever to serve with the British army'. That is overstating it. There are a couple in our own generation who might better deserve that label. Where also, one might ask, should such great captains as Marlborough and Wellington fit in this estimation, since they undoubtedly possessed a genius for war and the way generals *applied* their intellect must be considered, rather than just trying to estimate brute mental firepower. The epitaph Fuller deserves is of most intellectually *influential* officer ever to serve in the British Army.

His writings were snapped up by the general staffs and officer schools of France, Germany, the Soviet Union and every other significant military player. Frankly, the 1920s were the only time in its existence that the British Army exercised worldwide leadership in military thought. In the eighteenth century European military gentlemen considered a knowledge of Vauban or Turenne and later de Saxe

or Frederick indispensable; during the nineteenth century it was Clausewitz or Jomini. Fuller and Liddell-Hart are Britain's only real claimants for such laurels. Two came along at once after centuries of waiting because of the alienation felt by the Western Front officer corps and as a result of Britain's status as a pre-eminent industrial power at the time.

It is somewhat invidious to have to choose between these two British thinkers, but Fuller exercised personal influence over the birth of the Tank Corps as well as its early operations, published his ideas first, reached the rank (symbolically important for this book, at least) of major general and – before he succumbed to pretentious, self-referential theorising – laid the foundations of what we would now call military science. The fact that it took the Germans, the Red Army, the Americans and even the Israelis to bring his ideas alive simply confirms in hindsight his own conclusion that he outgrew the British Army.