

*Chapter one*

## Back to the Future

### ON WAR AND WARFARE

The social institution known as war survived the agrarian revolution of c. 6,000 BC, and the industrial and scientific revolutions of the nineteenth and twentieth centuries. It should be a safe prediction to expect war to adapt, or be adapted, to whatever changes technology, economies, and social and political mores will lay up for us in the future.

In the immediate aftermath of the Great War of 1914–18 (the one that was intended to end all wars, we might recall sadly), both scholars and more practical people, appalled by recent events, set out to discover why wars happen and how they could be prevented in the future. Unfortunately, moral outrage, sincerity of intention, and even excellence in research design could none of them evade the authority of the rule that the impossible truly is impossible. War is not a general problem, akin to some global disease, that should surrender to cure by a powerful general theory. Books and other studies on the causes of war, and wars, continue to proliferate. Many are persuasive as far as they go, while some employ sophisticated methodologies. It would be unjust and ungenerous to suggest that the literature on the causes of war is entirely useless, but such a judgement does have much to recommend it. Suffice it to say that more than eighty years of fairly intense study have yet to offer any unambiguous advance in our understanding over

that provided by Thucydides in c. 400 BC. He had the Athenian delegates to Sparta in 432 explain the motives for empire with reference to the potent trinity of ‘fear, honor, and interest’.<sup>1</sup> We shall return to that deadly trio.

If an apparently convincing general solution to the problem of war were achievable, it is probable that someone would have discovered it by now. The fact that none such has yet been promoted suggests that the scholarly campaign against war may have been thoroughly misconceived. The disease analogy is useful. Whereas individual maladies can be explored for their causes, and many can be treated and even cured, disease per se does not lend itself to direct scientific assault. So it is with wars and war.<sup>2</sup> Individual wars, possibly even clusters of wars that erupt in like contexts at roughly the same time, certainly have determinable origins, causes, and precipitating events. But war in general does not lend itself to useful scholarly attention. It is simply too rich a subject to be captured, let alone prospectively controlled, by the conclusions of general theory. Approached as a vital issue of public policy, war as a problem is beyond our skill to retire from political and social behaviour. So much for the bad news. The much better news is that particular wars sometimes can be prevented, while the actual conduct of warfare is almost invariably influenced by factors that limit the damage that is wrought. Of course, one has to be careful in making claims for success in the prevention of particular possible wars. Nothing can be certain until it occurs.

Some confused theorists would have us believe that war can change its nature. Let us stamp on such nonsense immediately. War is organized violence threatened or waged for political purposes. That is its nature. If the behaviour under scrutiny is other than that just defined, it is not war. The activities of terrorists can be identical to those of criminals; what distinguishes the two is the dominant motive. Over the centuries, and in different circumstances, violence has been variably organized, and what today we understand as political purposes, generally meaning the policy goals of states, have certainly shown wide cultural variety. Nonetheless, the definition of war offered here, somewhat rough and ready though it may be, when applied with common sense is fully adequate to capture all

of our subject in every period, past, present, and future. As usual, Carl von Clausewitz penetrates to the heart of the matter. On the very first page of *On War*, he advises that ‘war is nothing but a duel on a larger scale’. He proceeds to insist that ‘*war is thus an act of force to compel our enemy to do our will*’. He reminds us that ‘force – that is, physical force, for moral force has no existence save as expressed in the state and the law – is thus the *means* of war; to impose our will on the enemy is its *object*.<sup>3</sup>

Unlike many defence theorists, officials, and commentators today, who talk loosely about either military transformation or the transformation of war itself, usually without recognizing the night and day difference between the two concepts, Clausewitz was crystal clear both on the nature of war and on warfare’s potential for change. Lest some readers suspect that this discussion is in danger of straying into arid academic territory, they should be reassured, if possibly surprised, to learn that what the master had to say about the nature and character of war and warfare was resoundingly correct for all time, and indeed has never been stated and explained more clearly. Clausewitz argued that war has two natures, objective and subjective.<sup>4</sup> The former consists of the universal elements that distinguish war from all other activities. In other words, war is war, in all periods, of all kinds, between all manner of belligerents, and regardless of the contemporary weaponry and tactics. He insisted that war was an instrument of policy (or politics); that, as noted already, it was always a duel conducted for the purpose of imposing one’s will on the enemy by force; and that perennially it had a distinctive ‘climate’ made up of four elements: danger; exertion; uncertainty; and chance.<sup>5</sup> Clausewitz found war, all war that is, to be a ‘remarkable trinity’, composed of violence and hatred, chance and probability, and reason or policy.<sup>6</sup>

On the offchance that inadvertently I may have obscured what is clear in the pages of *On War*, it is useful to quote Clausewitz’s summary claim on war’s permanent ‘objective’ nature.<sup>7</sup> We are told that ‘all wars are things of the *same* nature’. It would be difficult to misunderstand or misrepresent that statement. One might disagree with it, but that is another matter entirely. The continuing authority of Clausewitz’s argument that the

'objective' nature of war does not change with technology, or indeed with anything else, is usefully underlined by the potent support it has received from Britain's leading military historian, Michael Howard – a translator of *On War*, one must hasten to add. Howard explains that:

After all allowances have been made for historical differences, wars still resemble each other more than they resemble any other human activity. All are fought, as Clausewitz insisted, in a special element of danger and fear and confusion. In all, large bodies of men are trying to impose their will on one another by violence; and in all, events occur which are inconceivable in any other field of experience. Of course the differences brought about between one war and another by social or technological changes are immense, and an unintelligent study of military history which does not take adequate account of these changes may quite easily be more dangerous than no study at all.<sup>8</sup>

By way of contrast to the eternal universal realities of war (its first nature), war's subjective (or second) nature is always changing, albeit at different rates at different times. In the eighteenth century the pace of change was slow. Strategic history accelerated with the cumulative effects of the French and Industrial Revolutions. Those convulsions posed problems of comprehension for governments and their professional military advisers probably more severe than those that press upon us today. For example, what did the coming of the railway mean for defence planning and the conduct of war? Or the advent of the electric telegraph? Or the availability of canning for rations? Or the revolution in range and lethality of infantry small arms, and of artillery, the arrival of new explosives, and the perfecting of reliable machine-gun technologies? Clausewitz's theory is completely unfazed by the permanence of the impermanence of the character of war. He writes that 'we wanted to show how every age had its own kind of war, its own limiting conditions, and its own peculiar preconceptions. Each period, therefore, would have held to its own theory of war'.<sup>9</sup>

Why, one might ask, does all this theory about the nature, in contrast to the character, of war matter? The answer is twofold. First, despite what this chapter argues below about the awesome perils of prediction, it transpires, if Clausewitz, Howard, and this author, among many others, are

correct, that we know a great deal *for certain* about future warfare. If, truly, 'all wars are things of the *same* nature', not least because of the continuity of the human dimension, then the past should have much to tell us. In fact it may be that what changes about war and warfare, although it can be very obvious and can seem even dramatic, is actually overmatched by the eternal features of war's nature. At war's sharp end, revolutionary changes in material or political conditions lose most of their meaning as candidate-defining elements. Whether one served in the front ranks of an ancient Greek phalanx, or whether one served in the US Army's First Air Cavalry division and was helicoptered into the Ia Drang Valley in November 1965, one was in acute peril of one's life. The difference between an enemy with long pikes and one with AK-47 assault rifles is a secondary matter of detail. What mattered most was the essential unity of the two experiences guaranteed by the extremity of personal danger. It may be felt to be depressing to make much of the key continuities of warfare through the centuries, indeed the millennia. However, we cannot claim that we have not been warned. Historical experience is a goldmine for the understanding of future war and warfare. This can be so because of war's unchanging nature.

The second reason why it is important to risk readers' patience and goodwill with this disquisition on war's permanent nature but changing character, is to combat a dangerous but attractive illusion. Not for the first time in modern history, and almost certainly not for the last, the seductive notion that war, major interstate war at least, is obsolete to the point of near impossibility, has gained many adherents. This view typically is not extended to cover all forms of warfare, as that would be empirically challenging in the extreme, given the mayhem in the rather extensive 'zone of turmoil' that includes much of Africa, the Middle East, Caucasia, and South Asia, *inter alia*.<sup>10</sup> More often than not, the unsound belief that major war is obsolete, or at least obsolescent, rests on nothing more solid than superficial trend spotting. It is scarcely a triumph of perceptive scholarship to notice that major interstate wars, even just interstate wars *per se*, have taken a back seat to domestic and transnational forms of conflict. As usual, the challenge lies not so much in gathering the facts, but in their

interpretation. Provided one can agree on what is meant by a *major* interstate war – a war of totally mobilized societies? nuclear war? – does its current absence from the world scene betoken anything of huge significance for the future of warfare? After all, major interstate war appeared almost infinitely remote in the 1920s. The all-too-Great War of 1914–18 had delegitimized the enterprise for a while. Even more to the point, by far the most probable instigator of a possible ‘Round Two’ was temporarily *hors de combat*, though its much reduced professional military establishment (limited to 100,000 at Versailles) was busy preparing, intelligently and energetically, to perform better next time.<sup>11</sup>

Optimism and pessimism can be perilous as attitudes that undergird policy. But of the two, optimism is apt to kill with greater certainty. Whereas pessimism may inspire a grand strategy, and especially defence preparation, that triggers responsive countermoves abroad, optimism has the potential to risk national safety and even international order more generally. A security policy that rests on a pessimistic view of international behaviour admittedly is liable to be self-confirming, as foreign powers take precautionary measures in self-defence. But a policy that amounts to an investment of hope either that humankind has forsaken most forms of warfare, or, more likely, that someone else will be on call to bear the security burden, is in danger of functioning as a self-denying delusion. Inadequate preparation for national security may well encourage countries or movements with roguish intentions to believe that optimists, or the ‘useful idiots’ (as Lenin characterized foreigners who failed to grasp the nature and purpose of Bolshevik power), can be bullied or worse.

Clausewitz did not argue that war is an eternal feature of the human condition. Such a task would have exceeded his self-imposed mandate to provide a theory of war, as well as contradicted his strong distaste for prophecy. He believed that war and its several behaviours, including its military conduct, or warfare, required no special justification. In Clausewitz’s day, indeed for almost another hundred years, war was regarded simply as an inescapable and presumably permanent dimension of the human social condition. Bear in mind that war has to be a social activity;

it is activity that can only be performed in and by societies. Although there is a long and distinguished tradition of dissenting commentators on behalf of peace, there is an even longer and rather more distinguished offsetting, principally religious, tradition of theoretical and doctrinal writing in defence of the concept of the just war. In the just war canon, war is treated as an occasional regrettable necessity, sanctioned by the need for we humans to survive, and defend the right so to do, in a decidedly imperfect world.

We have been greatly chastened by the ghastly events of the century recently concluded. That century witnessed two hot world wars and a cold one (that, had it turned hot, most probably would have terminated what we know as civilization), to cite only the high (or low) points in one of history’s strategically more busy periods. Now it is commonplace, not to say fashionable, to hear generic condemnation of war and no less generic praise of peace. It is inconceivable that the most senior soldier of a Western country today would say, or even think, what Field Marshal Helmuth Graf von Moltke, the victor in the wars of German unification, said in 1880:

Eternal peace is a dream, and not even a pleasant one. War is a part of God’s world order. War develops man’s noblest virtues, which otherwise would slumber and die out; courage, self-denial, devotion to duty, and willingness to make sacrifices. A man never forgets his experiences in war. They increase his capability for all time to come.<sup>12</sup>

How times have changed. The passage of a bloody century and a quarter, and the uneven emergence of the modern and post-modern somewhat globalized world, give Moltke’s all too sincere words the misleading appearance of self-parody. It is easy to forget just how recent in human history is an explicit commitment to peace. Michael Howard quotes the nineteenth-century jurist Sir Henry Maine, who observed that ‘war appears to be as old as mankind, but peace is a modern invention’.<sup>13</sup> Howard himself advises that ‘archaeological, anthropological, as well as all surviving documentary evidence indicates that war, armed conflict between organized political groups, has been the universal norm in human history’!<sup>14</sup> That this is true can hardly be doubted. Why it should be so is a question of live

interest since it must have some bearing on the likelihood of humankind turning its back on war. This author is agnostic on the issue of whether or not the human race will ever forswear war. The question is paradoxically both important yet thoroughly uninteresting.

Admittedly, some kinds of war and styles in warfare are currently out of fashion, but they may well be resting rather than declining in an irreversible obsolescence. Major interstate war, including nuclear war, indeed interstate war of any kind, fortunately is not much in favour at present. However, the conditions that have produced those facts are certain to change. When they do, the current literature which proclaims the obsolescence of 'old (regular) wars' between states, or which finds large-scale war obsolete because of the slowly growing likelihood of it having a nuclear dimension, or proclaims the mature arrival of war's largely extra-statist 'Fourth Generation', will look more than a little foolish.<sup>15</sup> Alas, it is the fate of optimistic prophets to be perpetually disappointed.

Many people fail to understand that one cannot sensibly have a 'peace' policy, at least not directly. Peace is not achievable as a direct object of purposeful behaviour. Instead, peace is the product of the circumstances that enable it to thrive. In common with love and happiness, peace is the result of much enabling and promoting behaviour. One must add that just as peace per se cannot be pursued intelligently, nor can war be assaulted directly, no matter how sincere and intense the motives. War is not a problem. Rather is war a hundred, perhaps a thousand, problems. Moreover, all historical experience tells us as plainly as can be that war, or war-proneness, is a condition of human society. Its popularity ebbs and flows, and ebbs again, but there is no convincing evidence extant to suggest that we are marching in virtuous lock-step towards a war-free world, at least not in any timeframe of interest to readers of this book. More optimistic views are not hard to find, however. Readers in quest of hope could do worse than sample the 'communitarian' theory advanced by the distinguished sociologist, Amitai Etzioni.<sup>16</sup> I believe that his grand notion of a truly global community is a forlorn hope, but I would be thrilled to be proved wrong.

We have inherited a belief in progress, a belief which our material

triumphs appear to confirm, certainly encourage. As we explain in the next chapter, there is no doubt that, in the Western world at least, attitudes towards the acceptability and legitimacy of war most certainly have altered dramatically over the course of the past century. Snake-bitten (as the American saying goes) on the Somme, at Verdun, and by the Götterdämmerung of 1945, the powers of West-Central Europe have been convincingly debellicized. It is improbable, though, that the peaceful example of interstate relations provided by the polities of the European Union can be a practical model for other regions, notwithstanding the potency of economic globalization.

Definitions can be a blight. They are invitations to scholarly pedantry. Nonetheless, they are necessary. In the absence of definitions, we may, quite literally, not know exactly what is being talked about. It is necessary that the difference between war and warfare be flagged. War is a relationship between belligerents, not necessarily states. Warfare is the conduct of war, primarily, though not exclusively, by military means. The two concepts are not synonymous. There is more to war than warfare.<sup>17</sup> Because this book is mainly concerned with strategic topics, which is to say with matters bearing directly or indirectly on the use of force, it addresses the future of warfare rather than war. However, as must be obvious from the discussion already, the concepts of war and warfare necessarily overlap hugely. In truth, this discussion is about the future of both war and warfare. But because war in its many grisly guises is judged by the author to be a permanent blot on, and contributor to, the course of human history, warfare is deemed the more profitable subject to pursue. We know with a sad certainty that war has a healthy future. What we do not know with confidence are the forms that warfare will take.

#### PERILS OF PREDICTION

It is a general rule that the more detailed a prediction the more useful it should be. Unfortunately, degree of detail correlates closely with likelihood of error. Beware of experts who have grown fond of the comforting, but highly misleading, phrase, 'the foreseeable future'. The future is not

foreseeable. No one has unique access to a trustworthy crystal ball. That granted, fortunately it so happens that we are in possession of information that should yield guidance for understanding a great deal about the future, including the future of warfare. But, making sense of that information is no simple matter. In its report on the *Quadrennial Defense Review* of 2001, the US Department of Defense ventured the modest, but safe-sounding, opinion that 'we can be clear about trends, but uncertain about events'.<sup>18</sup> Alas, even that ambition is likely to prove unduly heroic. History is not reliably linear. The trends about which American officials are 'clear' may prove self-negating, because their recognition could spur investment in countervailing trends by others. Alternatively, those trends might meld to produce some super trend not discernible from examination of individual trends. For the future, as in the past, we cannot be confident of understanding what trends mean when they interact, as they must in matters to do with warfare. The First World War, the Second, and the virtual struggle of the East-West Cold World War, were none of them well comprehended in advance. That was the repeated case despite the clear visibility of relevant trends and, in the case of 1914–18, the pessimism of thoughtful soldiers in Germany, France, and Britain, who did not subscribe to the 'short war' illusion. Why should we expect to fare better in the twenty-first century? There is always a prophet or two who, considered in long retrospect, did 'get it right enough'. The trouble is that there is no way of knowing at the time which among the contending voices has genuine insight into the future.

Trend spotting is easy. It is the guessing as to the probable meaning and especially the consequences of trends that is the real challenge. For some examples, one can cite three civilian technologies in the nineteenth century and three in the twentieth that have had profound consequences for the conduct of war. In each case a notable leap of the imagination was needed to perceive the implications of invention. As cited already, in the nineteenth century the first appearance of railway, electric telegraph and food-canning technologies had profound consequences for the practicability of waging war on a very large scale over great distances, all the while

maintaining the effective coordination and control of separate armies. In the twentieth century, the availability of easily portable radio, of television, and of the personal computer, singly and eventually in combination have helped transform both the actual conduct of war and, perhaps scarcely of lesser significance, war's social context. As recently as the 1970s, IBM, among others, did not anticipate much of a future for the personal computer. What use would it be to people? Fifty years earlier it was not uncommon to find people believing that the radio would prove to be just a passing fad. It is usually much easier to predict technological change, even to understand how it should work, than it is to comprehend what it will mean. This is as true in military as in civilian fields, to the limited degree to which the two are distinguishable.

The future of warfare is not simply a given, a course to be played out with the hands that history deals to belligerents. We make much of our own future; our beliefs about it and hopes for it can shape that future. We do not just discover the truth about future warfare as time passes. In addition, we construct that truth through the decisions we make. Future warfare can be approached in the light of the vital distinction drawn by Clausewitz, between war's 'grammar' and its policy 'logic'.<sup>19</sup> Both avenues must be travelled here. Future warfare viewed as grammar requires us to probe probable and possible developments in military science, with reference to how war actually could be waged. From the perspective of policy logic we need to explore official motivations to fight, though the richness of that subject has to discourage the well-meaning optimist. Violence without political context can be many things (crime, banditry, sport), cultural expression even, but it cannot be war as we have known it and chosen to define it. Future warfare cannot be discussed intelligently when innocent of political, social, and cultural contexts. But neither can it be considered prudently as an option for policy undisciplined by recognition of military constraints. War's grammar and its policy logic must be approached as mutual dependents. Strategy is a practical business. If the troops cannot do it, policy is mere vanity.

This book cannot be a work of history, not even history of the

perilously misleading genre known as ‘virtual’. Virtual history, like virtual love or virtual wealth, is an illusion. It is almost trivially easy to show how fine minds, steeped in experience, can make the most appalling political, strategic, and technological misjudgements about the future. For example, speaking in the House of Commons on 17 February 1792, barely a year before Britain was obliged to embark on twenty-two years of near continuous war with France, Prime Minister William Pitt (the Younger) observed, without contradiction from the floor, that ‘unquestionably there never was a time in the history of this country when, from the situation in Europe, we might more reasonably expect fifteen years of peace, than we may at the present moment’.<sup>20</sup>

The future is full of surprises. Even statesmen who appear to have some usefully personal armlock on the course of history can be embarrassed by the non-linear flow of events. Field Marshal Paul von Hindenburg famously declaimed in 1932 that ‘I have no intention whatever of making that Austrian Corporal either Minister of Defence or Chancellor of the Reich’. In his Mansion House speech in 1942, Winston Churchill shared with his audience the painfully sincere, but injudicious and ultimately despairing atavistic determination, that ‘I have not become the King’s First Minister in order to preside over the liquidation of the British Empire’. Pitt, Hindenburg, and Churchill, to cite but a representative smattering from a vast array of political predictions and solemnly declared intentions, were all unfortunate rather than stupid. If political prediction can be hazardous, so too can be the venturing of supposedly expert scientific predictions.

The now global media has an insatiable appetite for knowing the unknowable. Experts are invited, sometimes bullied, into offering opinions that they should not. The market for knowledge of the future is always a healthy one. Books such as this on ‘future warfare’ all but tempt the author to exceed his or her expertise. Although we know a great deal about the future, because of its continuities with the past (the certainty of some nonlinearities duly expected) and because it has to be made from the diverse material we can observe today, we cannot predict what will happen. Many

a reputation has been dented when vanity seduced its owner to venture a guess too far. To underline the importance of the point that prediction is perilous, and that as a consequence many of the popular beliefs of today needed to be regarded sceptically, I will now offer some examples of unwise prophecy from the history of science and technology. These are amusing, but they are provided because they carry a serious security warning. I am indebted to my colleague Keith B. Payne for assembling such a glittering shortlist:<sup>21</sup>

Rail travel at high speed is not possible because passengers, unable to breathe, would die of asphyxia.

Dr Dionysus Lardner (1793–1859)

Professor of Natural Philosophy and Astronomy, University College, London

Heavier than air flying machines are impossible.

Lord Kelvin

Mathematician, Physicist President of the Royal Society, c. 1895

It is apparent to me that the possibilities of the aeroplane, which two or three years ago were thought to hold the solution to the [flying machine] problem, have been exhausted, and that we must turn elsewhere.

Thomas Alva Edison, 1895

To affirm that the aeroplane is going to ‘revolutionize’ naval warfare of the future is to be guilty of the wildest exaggeration.

*Scientific American*, 16 July 1910

I can accept the theory of relativity as little as I can accept the existence of atoms and other such dogmas.

Ernst Mach

Professor of Physics, University of Vienna, 1913

This is the biggest fool thing we have ever done ... The bomb will never go off, and I speak as an expert in explosives.

Admiral William Leahy,

Advising President Truman on the impracticality of the atomic bomb, 1945

Many readers will have their own favourite examples of the genre just illustrated. The point is not that it is foolish to predict. Prediction is essential. Rather the point is simply that because there is no technology or methodology available that can negate the fact that the future has yet to happen, many predictions will prove to be wrong. The pressing challenge is for us to anticipate the future as best as we are able in ways that reduce, hopefully minimize, the risk of our committing errors in prediction that are likely to have catastrophic consequences. The necessary skill is to pursue a strategy of minimum regret. But in order to do that, first one needs to be alert to the probability that some of today's confident assumptions about the future will not survive the test of experience yet to come. In the technological realm in particular, there is a popular tendency to assume that the future will be like today, only more so. Ironically, this unimaginative bias is encouraged even by so prescient a dictum as 'Moore's law' (after Gordon Moore, co-founder of Intel Corporation), which in 1979 predicted astonishingly an indefinite doubling in computing power every eighteen months. There is a universal law of diminishing returns to effort which should make one sceptical even of Moore's law. Paul Hirst has given us a most timely, not to say historically well-founded, warning against the comforting assumption of a surprise-free tomorrow. The subject of his scepticism is of particularly high relevance for the argument of this book. Hirst speculates as follows:

It may thus be possible that after a period of rapid and major change in the next half-century military technology will begin to come up against basic limitations of information and engineering technologies. A burst of radical change followed by stasis is thus perfectly possible.<sup>22</sup>

To many people in the US defence community, Hirst's warning will seem absurd. However, history and common sense, resting on the law of diminishing marginal returns to effort, suggest that his words should be treated with respect. The fact that Hirst, and we here, are considering future warfare, an activity that we know must be a duel, should encourage open minds in the prediction game.

All warfare is a race between belligerents to correct the consequences of the mistaken beliefs with which they entered combat. Though subject to the astrategic discipline of budgets and social values, military preparation, particularly in a lengthy inter-war period, also expresses what a security community believes, or would like to believe, about its future. History books can offer fresh interpretations of French colonialism, or of British generalship in the Great War, but this work locks author and reader into the same room as the responsible policymaker of today. Historians know what did not work well for the Third Reich, or for the United States in Vietnam: they have an inalienable advantage over their historical subjects. The 'culminating point of victory', to borrow from Clausewitz yet again, tends to be clear only in the light of grim experience.<sup>23</sup> In this exploration all commentaries start equal. Historians can be expert on what went right and what went wrong on the Western Front from 1916 to 1918. But no one, repeat no one, today is expert on the remainder of the twenty-first century.

Efforts to understand and hence prepare for future warfare have to be undertaken by someone on our behalf. To cite the difficulty of peering into the future is no excuse for not trying. Our society and the global community of societies, most of them with states, have no choice other than to be interested in the future of warfare. To quote the old saying, you may not be interested in the future of warfare, but the future of warfare assuredly will be interested in you. The study of war is not simply an optional extra, even for thoroughly debellizized Europeans. Contrary to the argument of American military historian Russell F. Weigley, in his book, *The Age of Battles*, war retains a unique power of decision. He asserts that 'if its power of decision was the "one virtue" that war had ever had, then war never had any virtue'.<sup>24</sup> It may be true to claim that wars are won, and lost, more at the peace table than on the battlefield, but the players in the negotiations and political manoeuvring depend vitally upon the worth of the military hands that they hold. It is necessary to remember that 'success in battle, according to one military maxim, may not, on its own, assure the achievement of national security goals, but defeat will guarantee failure'.<sup>25</sup> That is a general, though not strictly universal, truth. The politicians and

officials who mind the store of defence for us have to make particular decisions based only on a general knowledge, or more often, guesswork. What will warfare be like in the 2020s, 2030s, 2040s and beyond? Beyond the minuscule ranks of science fiction writers, how many people in the early 1900s could envision the air fleets and panzer divisions of the early 1940s? Most probably there are people writing today who have a clear and accurate vision of future warfare c. 2040, but we do not know who they are, and nor do they.

One of the several reasons why defence analysis and strategic theory mocks the ‘science’ in social science is because investigator and subject matter are vitally linked in a most unscientific manner. Rather like the O. J. Simpson contaminated crime scene, future warfare is in good part what we choose to make it, or elect to allow others to make it, rather than sitting out there in the decades to come just waiting for History to tap it on the shoulder. Defence decisions are taken today in order, one hopes, to reduce others’ options tomorrow; it is called dissuasion and deterrence. However, to say that we help shape our own future is not to claim that we make that future. Readers are invited to select countries of especial personal interest and, as an exercise in strategic judgement, decide how much of their strategic history over the past one hundred years was truly self-guided and self-propelled. Even when we locate an extreme and persuasive case of a country that sought to make its history according to the beat of its own drummer, the typical consequence has been armed conflict shaped significantly by the efforts of other countries who resist the roles they are assigned, most especially that of compliant victim. In a complex world wherein many polities play the game of nations, personal and national will rarely triumph for long over the weight of contrary interests: witness the Third Reich for an admittedly extreme illustration.

All things are possible, though not equally probable, but there are no pressing reasons today to believe that the future of warfare is likely to register sharp discontinuities with its past. Given the fact that history has registered non-linearities, only limited confidence can be placed in that claim. Of course, contexts will change. Political, social-cultural, and technological

circumstances will alter, but war will remain recognizably what it has always been; the application of organized violence for political ends. This is not to seek to minimize the influence of technological or other kinds of change. But it is to suggest that much of the future of strategic history is likely to resemble its past. Just how close that resemblance will be must depend upon our level of analysis. For example, although the tools of war have evolved radically over the centuries, for the individual combat soldier the essence of the matter is unchanged and unchanging. The military profession is unique in requiring its members to be prepared to act in the most literal peril of their lives. Similarly, the core competence of a fighting force is its skill in killing and injuring people and damaging things.<sup>26</sup> It was ever so. In speculating about future warfare, we have to be at least as respectful of the noun as we are of the adjective. We do not know much in detail about the future, but we know a great deal about warfare. How can that be true?

#### CONTINUITIES AND DISCONTINUITIES

Future strategic history, which is to say the history of the threat and use of force and its consequences for the course of events, can legitimately be viewed as a glass half empty or half full. Nearly three millennia of such history provides us with a treasure trove of strategic information, lore, and an abundance of horrors. And yet, every period is different. History cannot tell us what will happen, but in reminding us of what has occurred it must help shape our expectations, certainly the confidence with which we are armed when we peer into the future. Rather against the grain of the argument, which has been emphasizing the impact of historical non-linearities, it is necessary to recognize that strategic continuity and evolution are remarkably resilient in the face of apparent breakpoints and even revolutions. As an exercise in history and strategic imagination, we might try to fast-forward a century to guess what the twenty-first century will have produced by way of future warfare. If that is too much of a stretch, there is much to recommend a terse retrospective on the century recently concluded. Futurologists know not to aspire to anticipate the detail of the time, place, belligerents and technology of future warfare, but they should

harbour the ambition to get many of the really big things right enough. Official defence planners are in exactly the same situation. They cannot know what will happen unless they plan to do it themselves. Even then, well-plotted and cunning plans may go wrong on the night, not least because war is a duel and the enemy may prove uncooperative. Defence establishments know that they cannot help but make many mistakes in their planning, but they can aspire to make mainly small, rather than large, errors.

For example, for reasons of cost, politics, and current doctrine, Britain's Royal Navy may acquire two 55,000-ton aircraft carriers after 2012 which fall some distance short of the ideal. But it is most likely that the Navy will have got a very big thing right enough. Playing deputy to the American sheriff in this new century requires the ability to conduct maritime expeditionary warfare, if needs be against coastal states that would deny access forcibly were they able. Seaborne air power is vital for the projection of force ashore as well as for the protection of the fleet. The details of provision of that maritime air will be eminently debatable, but the principle in question is persuasive beyond plausible challenge. Global strategy for a world the surface of which is 72 per cent water, and a large percentage of the population of which lives within 200 miles of the sea, mandates a strategy of sea control to enable power projection from the sea against the land. The international sheriff and its deputy must maintain a fleet balanced among its several duties, the cutting edge of which will be the ability to reach out and touch friends and foes far beyond the shoreline. The futurologist and the official defence planner inevitably will make some mistakes over the detail of desirable naval capabilities, twenty and more years into the future. Such errors are routine and to be expected. However, the kind of errors for which strategic history would not be forgiving would include, for example, a decision to abandon sea-based air power altogether.

Flexibility and adaptability are military virtues, not least because history shows that forces frequently are used for duties for which they were not originally designed. In the twentieth century, submarines intended to serve as adjuncts to the battlefleet made their truly historic mark conducting independent, and typically illegal, warfare against trade. As large fleet

carriers became the new capital ships after 1942, so battleships and battle cruisers – yesterday's capital ships – found that their duties shifted from ship-to-ship surface combat to shore bombardment and fleet air defence. The principle that there is military security in diversity and in sheer quantity of assets can be hard to explain to narrow and economy-minded budgeteers who do not relate to a strategic context.<sup>27</sup> In military affairs it is rare for there to be only one solution to a challenge. Soldiers do not have to perform impeccably to win; they simply have to outperform a foe who is certain to fall short of military excellence in several regards. Similarly, defence policy and plans and the equipment and forces they generate do not need to be in some absolute sense correct. Instead, they need only be correct enough, bearing in mind that enemies in the future, as in the past, will have their weaknesses too.

The real or apparent discontinuities in strategic history stare at us from flickering newsreels, and now from video feeds to space vehicles servicing the global media. We have knowledge of the twentieth century that futurologists a century ago would dearly liked to have had. Of course, many of their predictions, based on such privileged esoteric knowledge, would not have been believed. Many a professional reputation has failed to blossom because it was constructed upon predictions and advice which, though accurate and prudent, were unfashionable, carried unacceptable implications for needed action, or seemed unduly implausible to contemporaries. One can venture the perilous thought that there may be strategic, or other relevant, developments in the twenty-first century which would, so to speak, upset the game board of future warfare. This possibility brings us face to face with the somewhat imperial thesis that strategic history advances irregularly by great convulsive irregularities, or discontinuities, even non-linearities, to resort again to the popular jargon.

Scholars have labelled these breakpoints Revolutions in Military Affairs (RMAs). The argument is that from time to time a radical change occurs in the way in which war is conducted. People in the 1790s who expected the next war with France to be a replay of previous contests were to be overrun by the military consequences of the changes in French society

triggered by the Revolution. Or the leaders of the somewhat Napoleonic armies of 1914 – with horse, foot, and guns – were obliged to learn the trade of modern warfare in real time under fire, as by 1918 war assumed structural aspects of combined arms combat that persisted into the 1990s and beyond. This possibility of radical discontinuity is treated in some detail in Chapter Three. Suffice it for our purpose here simply to record the basis for concern.

Strategic history does not move at a constant pace, or at least does not appear to do so. In practice, though, military evolution tends to be fairly steady. Dramatic change is highlighted only when society commands that the key be turned to set the military machine in motion, and the machine actually works. Long years of peace can incline soldiers, their political masters, and society at large, to forget that an army is maintained for the pre-eminent purpose of waging war, an activity that must entail killing people and breaking things. We are at liberty to be amazed at what changes in the activity we know collectively as warfare, and/or at what does not. Consider the bloody twentieth century. Deliberately to mix military technical with political and social contexts, future warfare for the strategic theorist and defence planner of a hundred years ago contained the following interesting items for eventual professional digestion:

- A military domain that expanded from just two geographical dimensions, the land and the surface of the sea, to include the depths of the sea, the air, space (Earth orbit, at least), and now cyberspace. So warfare became much more complicated for those who had to try to manage and execute strategic history.
- The occurrence and recurrence of no fewer than three great wars, two hot, one cold, with an ideological dimension becoming more prominent from war to war, and each progressively more total in its involvement of whole societies than was the last.
- The variably painful demise of the European colonial empires which had expanded to colour all the vacant map space available. Colonization and decolonization were not significant contributory causes of

any of the three *grandes guerres*, but their course and consequences made major donations to the column of future warfare.

- The incorporation of additional geographies into the strategic realm meant that new technologies threatened established military beliefs and practices. In the twentieth century, people had to learn how to run a war economy and armed forces on oil rather than coal and horsepower. Also, mechanization, flight, submarines, electronics (radio, radar, computers), ballistic and cruise missiles, and spacecraft all had to be tamed and exploited. The development of atomic weapons in the early 1940s appeared almost as a wild card, of uncertain meaning for all forms of military power, traditional and new.
- Finally, towards the close of the twentieth century a radical change in social values affected those Western societies that earlier had complacently and repeatedly delivered generations of infantrymen for strategic disposal by the statecraft and generalship of the day. By the 1990s they appeared unwilling to tolerate casualties on any scale even faintly reminiscent of the recent experience of total war. This is the common wisdom of our day. It is somewhat true, hence its listing here. Nonetheless, it is necessary to note that our apparently debellicized societies have not actually been asked to bear a heavy burden of casualties in defence of ultimate values. Nuclear strategy in the Cold War may seem to contradict this point. But a quite unjustifiable confidence in the reliability of mutual deterrence rendered the prospect of nuclear warfare and its staggering potential to break all historical records for casualties almost wholly unreal.

This new century will show its equivalents to the listing specified immediately above. There will be political surprises on the grand scale. For speculative examples, we can imagine – actually we observe today – a new international alignment that will pit China and Russia against the United States, while systems for space warfare are bound to come of age. By space warfare we mean warfare for the control of space, warfare in space, and warfare from space. At present, space is only militarized. Long before this

century draws to a close, space will see weapons deployed also. The strategic logic is inescapable. It should not be forgotten that future warfare will comprise both the novelties of the new century and a massive carry-over from past warfare. Strategic innovations from the seventeenth, eighteenth, nineteenth and twentieth centuries are all to be found in the military institutions of today, and prospectively tomorrow. The nuclear revolution of 1945 and the nuclear era that it ushered in remain militarily authoritative today, though nuclear weapons have ceased to be the preferred instrument of the strong. In common with terrorism, with which it has a troubling synergistic relationship, the nuclear weapon has become a tool of the weak. Usable military power is non-nuclear for the most powerful of states. The point of note is that future warfare will contain many elements with which we have become long familiar. Recall, for example, that aircraft, ballistic and cruise missiles, nuclear weapons, space systems, and computers in all their military applications, have been layered on to military preparation and the conduct of war as usual. The hardware of war is constantly changing – and that is important – but it shrinks in significance when set against the continuities that bind the future to the past and present of warfare. Those continuities are made of such resilient material as politics, culture, and human nature, at least of human nature functioning in society, as it must.

Before considering briefly the continuities in strategic history that allow us to write with some confidence about future warfare, if not about future wars, a caveat about focus and point of view is all too necessary. Because of its wealth, strategic significance and cultural dynamism, the United States is wont to scoop the pool of attention when its scholars and officials contemplate future warfare. In technology, ideas, organization, and recent military experience as the sheriff for the current international order, the United States is, of course, in a class of its own.<sup>28</sup> There is general agreement today that the United States will not face a peer competitor in the near future. Some people identify that near future as 2015-plus, others as 2025-plus. But if we relax our understanding of what it would take to be a peer competitor militarily, and instead think grand strategically, it will not be long before a hostile bloc led by China and Russia would be more

than capable of thwarting most US initiatives on behalf of global order. If by future warfare we mean the future grammar of warfare, military science, especially in its technological dimension, then there is no doubt that ours is a thoroughly American subject. The United States, at present almost uniquely, is advancing the frontier of regular military capability. This is a product of wealth and the investment of that wealth, of geopolitical responsibility willingly assumed, and of sheer momentum in innovation. However, the temporary absence of worthy ‘regular’ foes does pose something of a historically unusual challenge. Past surges in military effectiveness usually have been triggered by specific fears and their authors had definite, identified, enemies in mind. The military revolution currently under way in the United States, keyed technologically to the exploitation of the computer, is designed to succeed against both regular and irregular enemies. The United States today is at war with terrorism. In the words of a US Army publication, ‘the most salient aspect of the current security environment is that we are a Nation and an army at war – a war unlike any we have experienced in our history’.<sup>29</sup> This rather indeterminate political contextual reality places a premium on flexibility and adaptability. The past century witnessed a reduction in the number of great powers from possibly five or six before the Great War (France, Germany, Russia, Britain, Austria, perhaps Italy), to two in the Cold War, down to only one today. The number of great powers was demonstrated by the Suez fiasco of 1956 to have shrunk to two, as British and French pretensions to be significant independent players were exposed beyond repair. But throughout the Cold War the major NATO allies of the United States could each field forces in all geographical environments able to stand in the line of battle with their US counterparts and perform competently, if not quite seamlessly. What has happened since the 1980s is that the enormous disparity in resources committed to military research and development between the United States and, literally, everyone else, has resulted in the superpower writing a new chapter in the ever-continuing history of military capability and effectiveness. However, a study of future warfare cannot sensibly focus only on the country that in some obvious ways is the market leader.

To present an emerging American way of war as the exemplar of future warfare would be to commit the same mistake as to confuse a new Ferrari with the future of motoring. Most people will not drive Ferraris, and most soldiers and other warriors will not pursue their deadly quarrels in ways prescribed by an American way of war. Future warfare is a catch-all net for the organized violence undertaken in the name of politics or religion; it does not necessarily refer neatly only to what appears to be the finest flowering of the military art and science of the period. A great American strategic theorist, Bernard Brodie, once wrote that ‘strategic thinking … is nothing if not pragmatic. Strategy is a “how to do it” study, a guide to accomplishing something and doing it efficiently. As in many other branches of politics, the question that matters most in strategy is: Will the idea work?’<sup>30</sup> Today an American style in warfare is undoubtedly the cutting edge of the future, much as Spanish, French, and German military prowess successively over nearly four hundred years set the pace for what was modern in their periods.

But most of the fighting, certainly most of the dying, in future warfare will not be done by Americans. Enemies of America who cannot afford to emulate US investment in, say, space systems, long-range air power, or networked communications, will be obliged to pursue Brodie’s logic and seek strategic behaviour that works well enough, be it ever so inelegant and probably decidedly irregular. A handful of martyrs armed with box-cutters who can hijack and then command large passenger aircraft full of fuel comprise a weapon system that works. When we discuss the most modern of military capabilities, we must remember that a dominant US mode in warfare must motivate materially challenged belligerents to hunt for asymmetrical and hopefully equalizing tactics, operations and strategies. Furthermore, most of the military mayhem in the world of the future will be caused by organizations and people who are militarily modern only in a few respects (e.g., they may use automatic assault rifles and mobile phones). The American superpower guardian of the international order is the very embodiment of an unfolding excellence in the prospective conduct of future warfare, understood as regular battle. It is not so reliable

in the conduct of war as a whole, and especially is it weak in relating its military performance to political purpose even when the performance is first-rate.<sup>31</sup> Furthermore, America could be strategically thwarted by regional enemies who had invested intelligently and highly selectively in tools and tactics intended to reduce the effectiveness of US military power. For example, smart mines, diesel submarines and cruise missiles, probably with some handfuls of weapons of mass destruction of modest range in the background, should not suffice to deny US military power access to a region of interest, but they just might.<sup>32</sup> At the very least such offsetting weapons and methods must raise the stakes for an American polity that by definition is less interested in an issue (e.g., breaking a mainland Chinese blockade of Taiwan) than is the regional foe.

It follows that the subject of future warfare must include both new developments and the adaptation of traditional military skills to new circumstances. Because this author is Anglo-American, the text may well suffer from lack of empathy for the concerns and probable experience of those from other backgrounds. If the United States could conduct air and ground operations in Central Asia in 2001–2002, an area of no previous interest to Americans, one must hesitate before asserting a limited geopolitical writ for an American way in future warfare. Nonetheless, even if we grant that for the next several decades warfare will be conducted in the shadow of the possibility of US intervention, still it is certain that most combat around the world will be waged by security communities for reasons of little interest to Americans. Future warfare is not synonymous with future American warfare.

MILITARY, LET ALONE STRATEGIC, competence cannot be gauged with high confidence without reference to the strategic context in which it is to be applied. Furthermore, if the world’s outstanding military machine is sufficiently fortunate as to be exercised repeatedly only against enemies who approximate a rabble in arms, flaws in the appearance of excellence are likely to pass unnoticed. The next chapter addresses the vital matter of the political, social, and cultural contexts of future warfare. The US military

unquestionably is, and should long remain, the world leader in the conduct of a regular style of warfare. That style is characterized above all else by the ability to deliver devastating firepower. There is an aspiration to excel also at decisive manoeuvre, but US ground forces lack the numbers and, to date at least, the swift mobility for true operational dexterity to become a reality. The US military machine, even when further down its impressive transformation road could be frustrated in strategic contexts wherein firepower, agile manoeuvre, and the warrior spirit are not at a premium. Contemporary events in Iraq provide textbook illustration of this caveat. As we must keep insisting, war is a duel. For reasons of policy, geography, or enemy cunning, an American military power excellent in its way, which is to say on its own preferred terms, but which is inflexible and non-adaptive to unexpected circumstances, could fail miserably. Remember Vietnam? The US Army recognizes this problem, and is taking far-reaching steps to change its doctrine and organization so as to provide a range of ways in war. Today it is an open verdict on how successful it will be.<sup>33</sup>

It is only prudent to assume that some future belligerents will be skilled, and perhaps lucky, in exploiting their limited strengths, even though they lack the general technical and tactical excellence of a 'transforming' American military machine. America's easy battlefield successes and victories of the 1990s and early 2000s cannot be taken as an authoritative predictor of future triumphs. The 'war after the war' in Iraq has been a sobering educator to many American analysts who were showing signs of that familiar malady, 'victory disease'. The US Army War College stated revealingly in a conference report in 2003 that America's future wars would, by and large, be conducted against 'Indians' (of native American genus!).<sup>34</sup> That dismissive characterization, even if not intended as such, revealed a confidence bordering on hubris that should alert us to the probability of history delivering some unpleasant surprises.

Time and again in this opening chapter, context has been claimed to be of the utmost importance. The discussion now moves on to explain and justify that claim.

## *Chapter two*

# Context, Context, Context

### A WAR-PRONE FUTURE

Three sets of mutually supporting reasons ensure that warfare has a healthy future. They comprise the persisting, familiar workings of world and domestic politics; the varied and substantial attractions of war to political leaders; and some enduring features of human nature functioning in society, including its potential for exhibiting a popular belligerency. We cannot know who in the future will fight whom, when, with what, and over exactly which issues. Fortunately, though, this analysis does not stand or fall on the plausibility of speculation over second-order matters such as those. What we can provide is some robust grip upon the probable character of future warfare, in all – or at least in much – of its rich variety of possibilities. As 'location, location, location' is the central truth which unlocks the mysteries of property valuation, so 'context, context, context' decodes the origins, meaning, character and consequences of warfare. If we are broadly correct in our grasp of the contexts that comprise the relevant future, then it should follow that our expectations about future warfare, as about so much else, should also be tolerably well founded. This is not to detract from the scepticism displayed thus far towards trend analysis: trends can be reversed, indeed may be self-negating as people recognize them and strive to change them. Also, the power of contingency, even of just rank