9

Strategy as a Duel: RMA Meets the Enemy

To the disappointment of some, though probably for the reassurance of many others, the more important conclusions to this lengthy and complex forensic examination of strategy and the theory and practice of RMA are clear and unambiguous. Notwithstanding the rich variety of detail among the three historical case studies, those candidate examples of RMA lend themselves persuasively to a common framework of strategic explanation. Indeed, I will venture the thought that were the multi-faceted mechanisation revolution of the 1920s and 1930s explored as above in this text, it would serve only to confirm what the other three cases already reveal.[1]

RMA theory, in truth theories, can be neither correct not incorrect. It could provide a way of helping us understand the process of change, if it does not mislead more than it assists, and it might even aid the purposive agents of such change, though one should be more than a little sceptical on that score. Self-styled revolutionaries are to be trusted neither to select ideas with prudence nor to cope adequately with the full, holistic scope of the context within which they aim to be effective. If that sounds unduly cynical, perhaps just pessimistic, we should recall the merit in humility, because, historically speaking, at best serendipity frequently triumphs. In fact, although this discussion is deeply unimpressed by most of the specific promises of RMA theory, our argument is strategically optimistic. Strategy can and does serve high policy Effective strategic behaviour need not be random or chaotically unpredictable.

Some readers may find diversion on the farther shores of chaos theory or with the intriguing ‘what ifs…’ of the new virtual history,[2] but the accessible modern stories of RMA experience reveal a notable ordinariness of key explanation that is almost banal. Specifically, for reasons exposed already and discussed below, what we may cite as ‘the bigger battalions’ eventually won each of the great contests that provided the political contexts for the case studies. Napoleonic France, imperial Germany, and the USSR were each in due course massively overmatched by their enemies. The RMA connection to that repeated political outcome was by and large negative in kind. It is impressive to record what RMA executives could not achieve with a radically modernised (in absolute, rather than relative terms) military machine. These historically based reflections should alert us to the probable fragility of some of the more exciting claims advanced today in support of the notion of an information-led RMA.

POLITICS AND RMAs

The conclusion to our analysis clusters conveniently, if deceptively simply, under seven banners. What follows summarises and knits together the theoretical and the historical parts of the enquiry.

1. *Politics rule.* Unless RMA as a process is reduced merely to the administration of innovation, the primacy of politics must be acknowledged. An RMA is not an event-sequence apart from its political context. None of the three great RMAs considered in detail in Chapters 6–8 make sense save with direct reference to their political placement in strategic history. Of course, to a degree each was waiting to happen. Military thought and practice in the mid- to late eighteenth century anticipated much of what the French Republic and Empire was to implement. The RMA of the First World War was constructed of many techniques and tactics long known in principle, if typically not actually executed. The nuclear revolution, in its turn, naturally was built upon the edifice of many decades of theoretical and experimental science. One can argue that strategic history was ready for the new ways in warfare of the three cases, and that the political propulsion for the RMAs certainly would have been provided by some political agents, if not those who actually played the historical roles that they did. I find this line of argument persuasive in terms of detail, but unhelpful in broad terms.

Great RMAs are made by people with powerful and generally quite specifically political motives, even if the process of innovation includes a lengthy period of gestation, experiment, and evaluation in peacetime. It may be a sad commentary upon the human race, but still it seems to be true that strategically we perform better when we have a particular enemy in mind. In that connection, much of the recent literature on an information-led American RMA has yet to step up to the still emerging reality of China as the next worthy foe (‘global terrorism’ probably is too difficult, too asymmetrically challenging, to win election to ‘principal enemy’). The concept of ‘peer competitor’ has been popular, but it should be retired promptly.[3] The phrase implies an approximate symmetry which is likely to prove strategically misleading.

For an RMA to succeed, both narrowly as a military-technical (inter alia) enterprise, and strategically as an agent for enhanced effectiveness, it has to translate into politically defined goals. The political nexus to the RMA process is pervasive and utterly inescapable. Napoleon, imperial Germany, and the USSR, *and their respective RMAs*, were each defeated by political contexts of their own malign creation that they could not evade. In some ways, the more glittering the military achievements of the Napoleonic, German First World War, and Soviet nuclear RMAs, the more thorough the eventual political demise was likely to be. Success in military innovation could only postpone defeat, it could not

point to an alternative, apolitical route to success. American RMA theorists today, rendered hubristic by the dazzle of computer-shaped warfare, need to remember that battle and war, like tactics and strategy, are very different. Tactically superior armies do not always win wars. In the Second Punic War, Hannibal's mercenary veterans were invincible in combat (until the very end, at Zama), just as he himself could not be worsted operationally by anyone available to Rome for more than a decade. Unfortunately for the premier army and general of the day, however, the Romans declined to offer themselves up to destruction in the open field.[4] A superior way in warfare can function as such only if, as the Royal Navy's toast has it, one enjoys 'a willing foe and sea room'.

2. *Strategy (and war) is a duel.* Robert H.Scales Jr claims usefully that 'Western militaries have proven to be "complex adaptive systems"'.[5] He is probably correct in asserting that

The history of warfare suggests a martial corollary to Newton's fundamental law of physics: every successful technical or tactical innovation that provides a dominant military advantage eventually yields to a countervailing response that shifts the advantage to the opposing force.[6]

Why should this be so? Because in war, and for strategy, there is always an enemy motivated, if only variably competent, to find ways to beat us. There is no law of strategic history requiring a particular foe to be successfully adaptive at a particular time. Nonetheless, the passage of time is likely to yield usable strategic opportunity to some would-be enemy to discover means and methods to effect our humiliation (if we are, or appear to aspire to be, the contemporary hegemon—local, regional, or global). We need look no further than to Clausewitz to explain the nature of our topic.

War is nothing but a duel on a larger scale. Countless duels go to make up war, but a picture of it as a whole can be formed by imagining a pair of wrestlers. Each tries through physical force to compel the other to do his will; his *immediate* aim is to *throw* his opponent in order to make him incapable of further resistance.

War, however, is not the action of a living force upon a lifeless mass (total non-resistance would be no war at all) but always the collision of two living forces. The ultimate aim of waging war, as formulated

here, must be taken as applying to both sides. Once again, there is interaction. So long as I have not overthrown my opponent I am bound to fear he may overthrow me. Thus I am not in control: he dictates to me as much as I dictate to him.[7]

It is surprising how often the attractions of what can amount to enemy-independent analysis are allowed by clever people to overrule lessons of historical experience and even just common prudence. The enemy(ies) of the day may warrant disdain, but what might they learn by the day after tomorrow? The Soviet Red Army was a fairly pitiful monster in 1940–41, but by 1943–45 it had acquired sufficient skills, in large enough quantity, to be second to none in the operational conduct of war.[8] The Austrians, Prussians, Russians, and even the British, were never in the same class as the Grande Armée *with Napoleon* in its glory years. But, by the 1810s, the emperor was aging rapidly, his enemies were improving, and France was tiring. An RMA leader can hardly help but teach its enemies the trade of modern war through painful first-hand experience. When belligerents adapt in the duel that is a strategic relationship, they are not required to adapt systematically, let alone elegantly. France's enemies learned that the French way in warfare was markedly more lethal when it was commanded personally by the emperor. Ergo, it was a sound principle to try to fight those French armies, or detached corps, that were not directed personally by the great man.[9] For a similar thought, quite early in the Soviet-German war of 1941–45 the Red Army discovered that it was far more competitive with the Östheer when it contested urban areas, than when it tried to manoeuvre in open terrain with mechanised forces.

It may be unnecessary to say that strategy can be approached as a duel only because 'war does not consist of a single short blow'.[10] Clausewitz explains further that 'If war consisted of one decisive act, or a set of simultaneous decisions, preparation would tend toward totality, for no omission could ever be rectified.' Only in the nuclear case among the three RMAs examined above might military action effectively have 'consisted of one decisive act', which, by definition, would have precluded adaptive strategic behaviour. In practice, even the nuclear RMA of the Cold War did not reduce to a final move. Quite the contrary occurred. During four and a half decades, the superpowers conducted virtual combat, in prominent part through the agency of an arms competition.[11] Considered as a duel, that competition was executed in exceedingly slow motion and often maladaptively. In this case, at least, constructivism has much to recommend it as a guide to understanding. Each superpower duelled according to its own

distinct notion of what would constitute effective strategic behaviour. Given that neither side could secure a tight empirical grasp upon the other's strategic force posture five to ten years in the future, invention (guesswork, intelligence) was king.

The different political contexts of our three RMAs—wartime (Napoleonic, First World War) and peacetime competition (nuclear)—obviously drive the character of the strategic duelling behaviour; they did not, however, determine its nature. Strategy and strategic behaviour inherently imply a foe, and that foe implicitly must be assumed to be motivated and able to conduct its affairs adaptively.

3. *RMAs are strategic behaviour.* Because there is a unity to strategic behaviour across time, technology, and adversaries,[12] and because RMAs must be considered to be expressions of that behaviour, it has to follow that strategically RMAs comprise but a single class of historical events. As noted already, the nature, purpose, and working of RMAs essentially are unchanging across the centuries. The detail of each RMA narrative will be unique, but they have in common the nature and structure of strategy that we explained in Chapters 4–5. The theory of strategy is the toolbox necessary to reveal secrets about the occurrence, course, and outcome of any particular RMA. Once strategy's multidimensionality and holistic functioning for total effect on behalf of policy (wise or foolish) are clearly understood, then a great deal of what otherwise would be mysterious can be opened for scrutiny.

In strategic affairs generally, contenders seek, and sometimes find, relative strengths to offset relative weaknesses. As a subset of strategic phenomena, the same judgement applies to the conduct of an RMA. In 1813 and 1814 Napoleon's operational genius and personal leadership frequently, but far from reliably, could offset the inexperience and numerical shortage of his troops. Ultimately, thinking of the entire 1812–15 period, strategy's political, ethical, logistical, and geographical dimensions, along with militarily better educated foes and the net effect of the sheer ravages of time, shaped a strategic context fatally nonpermissive of the emperor's many errors. He might survive his own failing health for a while, and possibly (again for a while) the political enervation of his French patrimony, but his cause was unlikely to endure when, incredibly, he placed Marshal Ney in battlefield command at Waterloo.[13] Now, had the Prussians not been closing to renew contact at Waterloo, having declined to retreat away from Wellington's coalition army after defeat at Ligny, had the emperor been physically fit, and had Wellington not been a superb battlefield general, then even Marshal Ney might not have succeeded in ruining the French Army. But strategy, we insist, is both multidimensional and historically is played out only once in circumstances unique to time and place.

When considering the strategic historical course of a particular RMA—say, the Napoleonic—scholars can have difficulty distinguishing the contingent from the structural and hence allegedly probable. The detail of Napoleon's rise and fall is rich in 'accidents', up to a point. However, the political context of

France in the 1790s was a land ripe for exploitation by ambitious military talent. Similarly, it was not inevitable that Napoleon's career must yield to the outcome of decisive battles in June 1815. *It was always* strongly probable, though, that the emperor's reach eventually would exceed his grasp in circumstances from which there could be no recovery. A proclivity to overreach was built in to the Napoleonic RMA on its human and command dimensions. This eponymous revolution would always be asked to deliver more strategic effect than was achievable, simply because that was the character of its imperial director. No matter how often he could scramble to victory against the odds, he was certain to roll the iron dice once too often.

Failure to register the point that RMAs are strategic behaviour, and need to be assessed as such, is akin to confusing battles and even campaigns with war. For an RMA massively to enhance net military effectiveness, let alone the kind of strategic effectiveness of which political success is made, it has to work well enough across the board of strategy's dimensions. The Napoleonic operational instrument can appear glittering, the infantry- or artillery-led agency of 1917–18 will impress, and the military-technical accomplishments of nuclear-missile technology inspire awe. But the structural fact of an adversary, the likelihood that it will have time it can use, and the inconvenient fact that an RMA is embedded in a prospective or actual conflict, have to mean that narrow focus on what RMAs can offer is sure to mislead. Theorists and officials forearmed with the cannon lore that RMAs are examples of strategy in action should avoid the grievous error of (strategic) context-free analysis. The full context for that analysis must include such strategic dimensions as, inter alia, the human, the political, the ethical, the geopolitical, and the temporal.

4. *Strategy need not be chaotic.* Many an insight becomes a fallacy if pushed too far. Of recent years, the proposition that it is the nature of war to be chaotic is an example of just such an insightful fallacy. A misreading of Clausewitz on the importance of friction, chance, risk, and uncertainty in war,[14] combined with an appreciation of the chaotic conditions of actual combat, has encouraged a newly orthodox view that chaos rules in war and, in reality, over strategy. This view is mistaken, though it does rest upon the valid points that war (and strategy) is complex, is often really or apparently nonlinear, and betrays chaotic features. Undetectable (perhaps because one was not looking) changes in initial conditions may lead to thoroughly unpredictable consequences well downstream.

Without denying the possibility of the occurrence of a genuinely chaotic course of events, this study has not found the ideas of nonlinearity and chaos powerfully helpful as aids to strategic historical explanation. Even the notion of complexity, though objectively true of the structure of strategy and the conduct of war, has sharp limits as a tool for understanding. Certainly, in principle, complexity in the form of strategy's many dimensions suggests fungibility.[15] For example, a belligerent disadvantaged in

generalship or strategic geography may seek compensation in the fighting quality of well-trained troops, in new weapons technologies, or in superior machinery and processes for policy- or strategy-making. But our case studies did reveal that there are dimensional deficits for which adequate compensation cannot be found, at least it was not found in the reality of the historical record ('Virtual' historians can always invent 'what ifs…').

Strategy posits a purposeful relationship between means and political ends. If strategic history truly were nonlinear and chaotic, then chance would rule. While chance plays a role, most assuredly it does not rule, and it may not even often reign, in the world of strategic behaviour. Napoleonic France, Wilhelmine Germany, and the USSR—the three great losers in the case studies developed earlier—were none of them in any serious sense unlucky to be defeated. The details of June 1815, November 1918, and November 1989, were not predicted or predictable. But, with substantial, if less than total, hindsight-foresight, we can readily identify systemic causes for the shortage in overall strategic effect that translated as eventual defeat. All three of our 'losers' were riding for the fall that they experienced. No single chance-driven event, or even a clutch of them, produced their demise. In each case, enduring weaknesses on the political dimension of strategy meant that the eventual loser, notwithstanding some period of relative advantage, always would find itself seriously physically disadvantaged. Also, it should be noted that in all three cases, notwithstanding the differences in technological context between the 1810s, the 1910s, and 1980s, it was the European *continental* protagonist that lost. The belligerent that was significantly a maritime coalition was the victor in 1815, 1918, and 1989 (not to mention 1945). Geostrategically regarded, imperial France, imperial Germany, and the USSR could none of them employ the RMAs of their day to such comprehensive and persisting benefit in coercion or war on contiguous land as to offset sufficiently the advantages of insularity to their leading foes.[16] We noted that even in the technologically rarified case of the nuclear RMAs of the Cold War, the old-fashioned-seeming geographical dimension of strategy played vital roles, including that of shaper of nuclear strategy itself (the dilemmas of extending deterrence).

It is no great challenge to find a plausible explanation why what occurred in 1792– 1815, 1914–1918, and 1945–1989 was always likely to happen. Balance-of-power and coalition theory provide all the explanation one really needs. France, Germany, and then the USSR invited the (accurate) perception that they were in hegemonic pursuit of a universal imperium. While some small states would bandwagon with the apparently rising hegemon, and a large polity or two temporarily would do likewise for tactical reasons, in the long run the greater powers would be obliged to form, and if needs be reform, a coalition to oppose the hegemonic menace of the day. It was not predictable that Napoleonic France would last until 1814, and then re-emerge in 1815, or Wilhelmine Germany until 1918, or the USSR until 1991. It

was predictable, however, that each of these polities would lose the grand competition upon which it was embarked. This is not to pretend that the fall of the USSR was widely predicted; it is to claim, though, that it has to be admitted that when viewed in retrospect the decline and demise of the Soviet empire was hardly 'chaotic'.

War and strategy may be a 'gamble', as Clausewitz affirms,[17] but it is not a gamble in which the odds are the same for all principal possible outcomes. The coalitions that eventually beat Napoleonic France, imperial Germany, and the USSR, outperformed their enemies strategically, which is to say in net total strategic effect. Strategically speaking, Napoleonic France, Wilhelmine Germany, and the USSR deserved to lose. We cannot permit complexity-nonlinearity-chaos theory to obscure the fundamental point that the outcomes to the three great conflicts in our case studies were each the intended consequence of effort purposefully applied across all of strategy's dimensions. In the old Soviet-era phrase, 'it was no accident…' that 1815, 1918, and 1989 (-91) recorded the strategic verdicts that they did. Strategic history humours chaos, but it is not pervasively chaotic. If, oxymoronically, 'chaos rules', strategy is impossible.

5. *Military performance only has to be good enough.* Military effectiveness is a relational variable; even performances notably flawed in absolute, and even some relative, terms, still may prove good enough. For the most obvious of examples from among our cases, consider the much-chequered history of the British Army from 1914 to 1918. From being far too small and ill-equipped for large-scale continental warfare in 1914–15, the BEF evolved by mid- to late 1918 into the most effective instrument of land warfare extant. The learning curve was long, bloody, and materially and financially hugely expensive. It is not surprising that few historians of the Great War are able to resist the temptation to grade negatively the generalship displayed and possibly the fighting power of the troops. With such an exercise authors inadvertently perform serious disservice to their readers. It is all too easy to forget that the flawed BEF of, say, 1916, 1917, and 1918, was not required to pass some test whose standard for a good grade was near perfection. Rather did the BEF of those years have to perform effectively—which is to say, in practice, through attritional combat—against a flawed German Army. The adaptive enemies who duel, or wrestle, are each apt to commit blunders and to be harassed by what collectively is termed friction. Although the BEF of 1918 was a very good army by an (irrelevant) absolute standard, there is no doubt that its campaign performance from August to November was much flattered by the fact that the enemy frequently could offer only a shadow of its former military effectiveness.

Strategic performance, even if good enough to secure victory, cannot really be judged 'good enough' if the success secured is Pyrrhic in character. Many people soon after the grim event, as well as today, were less impressed by the skill with which Sir Douglas Haig's BEF discovered and practised the RMA

of the First World War, than they were by the human, political, social, and economic costs of the victory achieved. More recently, the accusation of putative Pyrrhic victory always lurked, explicitly or implicitly, close to the subject of nuclear strategy. Regardless of the degree of optimism in the operational assumptions, no-one ever invented a nuclear strategy in the Cold War that reliably would have avoided casualties on such a scale as to delegitimise victory. For reasons of the believed need to enhance credibility for extended deterrence, idea after idea was pursued in the United Stated for the ever more constrained employment of nuclear weapons.[18] Both the course of contemporary public debate and sombre reflection many years on point to the merit in the judgement that nuclear use on anything beyond a truly token scale most probably would have been a self-defeating enterprise. This author is not at all content with that logic for the nuclear RMA of the Cold War. Unfortunately, perhaps, if nuclear weapons were to help keep the peace after 1945, foreign and military policy required operationally sensible-seeming, responsible strategies for the actual use of those weapons.[19] Similarly, Pyrrhic victory or not for European civilisation, I judge that the Great War waged to deny European hegemony to imperial Germany was a necessary conflict.[20]

The first of our RMA case studies recorded distinctly imperfect military performances by Allied forces, a fact happily overborne by the yet more flawed military (inter alia) performance of the French. The final coalition's military power, inelegant though some of it remained in relation to the highest standards of the day, certainly was good enough in its strategic coercive effect to enforce and then police a generally tolerable new

international order.[21] The same cannot be said of the military performances in our second case study. It may seem unjust to blame the soldiers of 1914–18 rather than the somewhat miscast statesmen of 1919 and after for the course and consequences of the interwar period. Nonetheless, the events of the 1920s and 1930s were very much the product of the way in which the war had been conducted and the manner in which it was concluded. The RMAed Allied forces of 1917–18 that proved good enough to defeat the RMAed German Army of those years, were only able to do so at a human cost that all but disarmed those who must strive to police a post-war order. Neither side in the Great War was good enough in the field to be able to win at a price that would not mortgage the long-term prospect for peace with security. In the Cold War, the strategic performance of the West proved good enough because its nuclear plans were never brought to operational trial.[22] The paradox was, and remains, that to be politically effective nuclear weapons require an operationally plausible rationale.[23]

6. *Continuity in strategic history.* It may seem contradictory, or at least paradoxical, to suggest that a proper grasp of change in strategic history can rest only upon the firm foundation of an understanding of

history's continuities. The bedrock of that understanding lies in the comprehension of strategy's unchanging nature, purpose and dimensions. As we can attempt to assess the character, role, and performance of a Scipio Africanus or an Alexander of Macedon, as well as a Douglas Haig or a Winston Churchill, because they were all human, so we can examine conflicts in all periods with a single, common, toolbox of strategic ideas and analysis. The theory of strategy presented in this book applies to all periods, all rivals, and all technologies. It is a principal merit of this general theory that it does not permit the scholar or prophet-advocate of RMA to focus unwisely strictly upon the dimensions of strategy wherein large discontinuities are projected. Our theory of strategy includes the proposition that every dimension always is in play, though the relative importance of, say, geography, ethics, or technology, must vary with historical context.

The three great RMAs, transformations perhaps, examined in detail in Chapters 6–8 collectively impress at least as much for the continuities they reveal in strategic history as for their measure of radical change. Each RMA was the servant of high policy, whether or not the agents of revolution kept that inalienable fact clearly in sight and whether or not they performed well. A miserable political record proved the undoing of Napoleonic France, as it was also of imperial Germany and the Soviet Union. Neglect of the whole story of strategy, with its historically continuous themes (dimensions or elements), encourages the view that a particular realm of advantage (e.g. technology, ethics, genius in command, alleged incompetence of the enemy) will be decisive. Our case studies demonstrate that none of strategy's dimensions can be ignored safely. Let us consider just one class of example, the ethical.

The victors in all three case studies benefited in practical ways from what can be called a moral advantage. This is not to offer canonical judgement, but rather simply to claim that the foes of the French Empire, the German Empire, and the Soviet Union all succeeded in seizing and holding the moral high ground. Each of these three great losers, over a period of two centuries, was portrayed plausibly by its enemies as posing an intolerable menace to right (enough) conduct. Napoleon was not trusted to abide by any agreement. Imperial Germany was believed to pose a hegemonic threat to the security of other polities. The USSR lent itself to American (inter alia) description, though some said caricature, as an evil empire. Whether or not such hostile portraiture was fully deserved, it was certainly strategically damaging. From the Truman Doctrine to the Reagan Doctrine, the leading edge of the US competitive drive against Soviet imperialism was expressed as *Moralpolitik*, not *Realpolitik*.[24] Scholars of RMAs who focus heavily upon operational or technical issues can easily miss the political significance of a state's failure to compete effectively on the ethical dimension of strategy. The point is not that right conduct wins because it is right. First, judgement as to what conduct is 'right' often is legitimately subject to contention, while, second, the concern here is not with the rightness or otherwise

of state behaviour, but rather with its strategic effectiveness. Our claim is that it is one of history's continuities that states suffer strategic disadvantage if they affront persistently and unduly egregiously the values, and therefore broadly the interests, of other polities and peoples. It is rarely wise carelessly to help the enemy mobilise its will to fight.

The history developed above shows clearly the limited value of advanced technology as a source of strategic effectiveness.[25] One hesitates to praise Stalin's distinctly self-excusing concept of war's 'permanently operating factors', but the idea does have merit.[26] Provided belligerents are militarily approximately of the same generation, military advantages and disadvantages will tend to even out over a period, leaving the contest to be decided by the issue of quantity rather than quality. Moreover, the issue of relative quantity (who had the bigger battalions?) is likely to be driven by political and moral (or ideological) matters. Technology is important to strategy, but then so also is everything else. Poor policy and ethical affronts have doomed more bids for empire and hegemony than has inadequate military technology.

7. *Déjà-vu all over again: an information-led RMA.* As usual, the immortal words of Yogi Berra hit the spot. Whether or not an American I-led RMA currently is under way, we know that whatever it is that is happening on the technological frontier of military power is subject to the complex, but still decipherable, workings of strategy. To risk giving gratuitous offence, authors of some of the more technically committed RMA advocacy literature can be likened to monkeys making chess moves and parrots repeating clever phrases. The monkeys and parrots may well perform accurately, but they will not understand the meaning of what they are doing. In his book, *Lifting the Fog of War*, which combines arguable history with a great deal of technical enthusiasm, Admiral Bill Owens nonetheless says many sensible things about the importance of sound policy, suitable organisation, rigorous training, proper doctrine, and so forth. The problem is that he, and others who share his quintessentially technical view of military affairs, fail to convince even when they strive carefully to present the whole picture. For example, Owens follows a paragraph which has expounded wisely on the proposition that '[t]echnology alone is not enough…', with the claim that 'the technological base of the Revolution in Military Affairs remains the central component of a transformed twenty-first- century American fighting force and the best hope for the United States to keep its armed forces superior to any other nation's'.[27] Owens' difficulty is that he does not seem to understand how strategy works, or fails to work. Should he ever read this book he would learn that strategy has many dimensions, none of which strictly, ever, can be labelled 'the central component', save perhaps the political—which provides meaning for the whole enterprise. His claim that 'the technological base of the Revolution in Military Affairs' is such a component would be more plausible were it applied to the nuclear RMA, but even in that extreme case a

focus on the technological competition would risk missing a great deal of the plot. The action that matters most in strategic history, to repeat an all too familiar refrain, is the political and the human. It is wise to deny the status of 'central component' to any of strategy's dimensions, lest inadvertently one slips into commission of the reductionist fallacy (better, even 'decisive', weapons win wars, 'the longer purse wins', and so forth). Strategy does not reduce to control by any single element. Even a nuclear arsenal cannot deter existentially. An intended deterree first must decide that it is deterred. There is no evasion of the human dimension, with its literally incalculable political and cultural content.[28]

The proposition that an I-led RMA is under way is neither true nor false, but is likely to mislead and to educate in roughly equal measure. If recent strategic history records a seismic shift it is more in the realm of geopolitics than the character, let alone the nature, of war. This fact has contributed to the apolitical and astrategic bias evident in the great RMA debate of the 1990s. Not for the first time in the twentieth century, American commentators confused an interregnum, or interwar period, with the end of seriously strategic history.[29] The most active years of the RMA debate in the United States postdated the end of the Soviet imperium, yet predate any general willingness to acknowledge the rise of China as the basis for the world's next grand geostrategic struggle.[30] (To repeat, although terrorism, even terrorism with weapons of mass destruction (WMD), is the fashionable 'threat of the day', it is an aside to strategic history, not the main event.) As Williamson Murray and MacGregor Knox conclude in the summative essay to a superb collection of historical studies, an RMA requires belief in a particular real enemy as a strategic challenge; in addition, they advise that history reveals the need an RMA for intellectual coherence.[31]

Thus far, at least, the proclaimed American RMA has lacked convincing targets and has betrayed anything but intellectual coherence. Those debating RMA have not agreed on what it is they are arguing about—recall the discussion in Chapter 2 about revolutions in military affairs, military revolutions, and military-technological revolutions, to cite only the leading categories—or on whether, absurdly, the nature as well as the character of war is at issue. Because form usually follows function, the absence of clear vision in the 1990s about future strategic function(s) translated into open season for technocrats. Unencumbered by strategic guidance worthy of the name, the US defence community rallied gladly around the flag of RMA as the *Big Idea* of the day. Naturally enough, the services rallied to protect their most valued force structure and preferred major platforms from potentially menacing interpretations of the implications of an I-led RMA. Overall, however, the American RMA debate was sustained by officials and theorists more than content to limit their attention to second-order military-technical topics.[32]

A defence community lacking meaningful policy guidance is likely to think and behave as culturally comes naturally to it.[33] In the American case, the national history shows an unmistakable preference for technical over political solutions and problems. Indeed, many of those who happily debated RMA matters in the 1990s seemed blissfully unaware that they were discussing answers to unposed questions. This is not surprising. Even when American officials and scholars broadly knew what they were about and why, they still sought in the Cold War to reduce political and strategic issues to terms susceptible to technical, even calculable, answer. Modern deterrence and arms control theory, and some attempted US practice thereof, was all but bereft of political and human content.[34] The relational variable of strategic stability literally was calculated with reference to the estimated ability of each side to inflict unacceptable damage upon the other, even after it had suffered a first strike. 'Vulnerability analysis' was the name of the strategic nuclear stability game, at least it was if one adhered to the intellectually dominant RAND school of US defence analysis from the 1950s to the 1990s.[35] Because the frozen politics of East-West relations rendered significant political accommodation impossible in the 1960s and 1970s, arms control was pursued zealously as an attempt at a functional substitute. Inevitably, the outcome was a disappointment. Arms control is about politics, regardless of the apparent elegance of American technocratic theory which infers the contrary. The technocrats flourished similarly in the 1990s in their fascination with the concept of RMA. Again, as in the 1960s and 1970s, there was no active official political or strategic agenda obliging them to address broader matters. In the earlier decades, the great questions of policy and strategy were already settled, while in the 1990s they were undefined and absent from the stage. When people and organisations are not required to think about difficult topics (in this case, policy assumptions and strategy), they will choose to focus on more congenial topics (e.g. a technically defined RMA).

Necessarily, a sense of *déjà vu* pervaded the recent RMA debate. Much of the loudly trumpeted content of this RMA has proceeded by generally evolutionary steps for at least forty years.[36] In addition, as noted immediately above, many Americans have debated their latest 'big organising concept' in an unsurprisingly distinctively American way. They have discussed an I-led RMA as if it could provide military-technical answers to (unasked) political and strategic questions; they have neglected strategy's adversarial dimension until very recently, when, with characteristic enthusiasm, enemies guided by 'asymmetric strategy' have become intellectually fashionable;[37] but they have not recognised convincingly the continuing harm that is self-inflicted by the interservice competition, which reveals hugely separate military cultures. Of no country's military establishment can it be said more truthfully than of the American that it scarcely needs foreign enemies, so bitter are the domestic rivalries. Finally,

the pervasive sense of *déjà vu* stems healthily from the appreciation that computer-assisted information-led warfare—expressing an alleged I-led RMA—must work strategically, as did previous RMAs. The theory of strategy developed above cannot be employed directly to provide prediction about the effectiveness of I-led RMAed forces. However, it can be used to educate for holistic understanding of the sources, and hindrances, to that net effectiveness. As has been common throughout the analysis, this last point is thoroughly Clausewitzian.[38]

ENVOI: STRATEGY AND HISTORY

My narrative trajectory, or 'story arc' as they say in Hollywood, has been perilous, embracing a social-scientific concern for theory together with respectful deployment of three historical case studies useful to help test the ideas of general explanation from the theory. Many contestable matters threatened the unity of my vision and grand design. The discussion has related the recent, arguably still unresolved, largely American debate over RMAs (Chapters 2–3), to ideas about complexity, nonlinearity, and chaos (Chapter 4), which fed into consideration of the general theory of strategy (Chapter 5); while all of that was employed lightly as a set of educational aids to help improve comprehension of three candidate historical RMAs (Chapters 6–8). The above comprised an ambitious agenda. By far the most sensible way to approach alleged RMAs is as expressions of strategic behaviour. Because that behaviour is timeless in its fundamental purposes, nature, and structure, possible RMAs from different periods can be explored with a common methodology so that cumulative understanding may be gained.

Two powerful sources of potential mischief for sound analysis require additional comment. First, in his masterly revisionist history of *The Seven Years' War*, Fred Anderson warns us of the need to 'resist the subtler [than seeing this war as a precursor to the main event for Americans in the mid-1770s] tyranny of a hindsight that suggests the creation of the American Republic was somehow foreordained'.[39] In a full explanation of this 'tyranny', or historians' fallacy, as I termed it earlier, Anderson advises that

> Virtually all modern accounts of the [American] Revolution begin in 1763 with the Peace of Paris, the great treaty that concluded the Seven Years' War. Opening the story there, however, makes the imperial events and conflicts that followed the war—the controversy over the Sugar Act and the Stamp Act crisis—into precursors of the Revolution. No matter how strenuous their other disagreements, most

modern historians have looked at the years after 1763 not as contemporary Americans and Britons saw them—as a postwar era vexed by unanticipated problems in relations between colonies and metropolis—but as what we *in retrospect* know those years to have been, a pre-Revolutionary period. By sneaking glances, in effect at what was coming next, historians robbed their accounts of contingency and suggested, less by design than inadvertence, that the independence and nationhood of the United States were somehow inevitable.[40]

Because RMA and associated acronyms refer to conceptual conceits rather than actual historical events, they offer prodigious scope to erect theoretical castles on soft sand. Although it is plausible to label Napoleonic, First World War (in 1917–18), and, putatively, nuclear-era *nuclear* warfare 'revolutionary', such can only be a matter of intellectual discretion. Save for 1917–18, the strategic behaviour referred to is not generally contestable in many respects. But whether or not those sequences of behaviour should lend themselves analytically to dissection as datable historical event sequences, notably distinctive from what preceded and postdated them, is a question that cannot be settled definitely by future study.[41] It is a matter of choice.

A second source of political mischief lies in the temptations of endless contingency. Far from being an abstruse academic point, this caveat penetrates to the heart of strategy and to a central intention behind this book. One should not be seduced by the intriguing recognition that just because the future has not happened, and therefore anything is possible, that every possibility is equally likely to occur. It can be difficult to give the ideas, and realities, of friction, complexity, nonlinearity, and even chaos, their proper historical due, without unintentionally overstating their significance. Provided one pays attention to all the elements that contribute to strategic performance, no matter how many dimensions one elects to employ analytically, it is practicable to seek strategic advantage. Of course, friction and chance may upset the schemes of clever strategists and can undo the best efforts of highly competent armies. Nonetheless, strategic competition and war itself are not realms of pure chance, despite the ease with which Clausewitz can be misread (or more probably, mis-skimmed) to that effect. The playing field of conflict is not level for all players and the differences rarely can be attributed simply to bad luck. For example, armies that do not train hard are not likely to fight well, almost regardless of the quality of their weapons or the operational skills of their generals. Small and relatively elite armies need to win rapidly, or hastily change their recruitment and training practices, before larger foes raise their game sufficiently and win by attrition.

The temptations of contingency are not confined to the realms of friction and chance. Historians can spin alternative narratives with the potent formula of 'what if…', almost as speedily as advocates and critics of new ideas for ballistic missile defence can outline plausible-looking graphics and claims in 'PowerPoint' presentation. Too often, historians who indulge in virtual history forget that in the very potency of their initial premise lie the roots of the folly of the whole enterprise. The hypothesised contingency that has dramatically alternative, linear or apparently nonlinear, consequences could not have happened in isolation. Virtual history is of practical necessity only a highly selective virtuality; its scholarly perpetrator cannot know what else ought to be altered or what the holistic consequences of those required changes would have been. In other words, the 'what ifs…' of virtual history are self-indulgent nonsense by people who should know better.

The professionals at the 'what if…' game are those scholars and officials who must look to the future. Senior defence persons delight in referring to 'the foreseeable future', but the truth is that, although we know how to weight the odds against our being seriously strategically disadvantaged, there is no way in which the future can be foreseen. Visions of the strategic future typically are not in short supply. Unassisted by the press of bloody events, actual or believed imminent, however, those visions at best will appear materially as evolutionary innovation much as usual. The several geographically specialised mechanisations of the 1920s and 1930s, though notching up impressive material, conceptual, and organisational achievements in different countries, all required combat validation in war (by some polity) and financial support on a new scale if they were to be realised. The event sequences examined here were each, in a vital sense, waiting to occur in a form that attracts the label RMA. Those caveats granted, still there were many and powerful reasons, principally pertaining to rapidly evolving political and strategic contexts, why these three RMAs should explode into life when, where, and in the manner that they did. To challenge the historical probability of the RMAs of the 1790s-1800s, 1914–18, and 1945–89, it would not suffice simply to alter a contingency here and a contingency there. Historical actors frequently, perhaps usually, fail to predict at all accurately the consequences of action and inaction, when indeed they even attempt so to do, but that fact does not deny the authority of strategy. Much about strategy is predictable, always barring the occurrence of some quite 'out of the box' happening. Chance, friction, genuinely chaotic sequences of events which upset rational *and reasonable* expectations, can happen, but by definition they do not happen regularly and the evidence tells us that strategic history does not produce truly random outcomes.

The historical dialogue between the influence of underlying persisting trends and the power of contingency has nowhere been expressed so poignantly in recent scholarship as in the book by Fred Anderson quoted above. The Seven Years' War emerged on a political and strategic stage that had been

set for more than a century by three previous major wars and countless raids and skirmishes. Accidents of human character and events in 1754 bearing upon the Ohio Country produced the war, but that is not the whole story. A common dilemma besets the social scientist who seeks theory, a logic of general explanation, from events—in this instance, what have been termed RMAs—and the historian who tries to understand the uniqueness of those events. Should one emphasise origins and causes, or triggers? The hunt for origins is potentially a journey without authoritative end, while the quest for triggers, or fingers on triggers, deprives analysis of strategic historical context and meaning. Unless one studies allegedly pre- and post-RMA eras, how can one know that an RMA warrants the revolutionary title? Anderson obliges his readers to take a bold look back before the Revolutionary War in ways empathetic to the actors in the 1760s. Those people were not self-consciously the agents of anything more radical than endeavour by some measured acts of rebellion to prevent new disadvantages in the terms of imperial membership. Anderson highlights in a historically concrete manner much of the subject area of complexity-nonlinearity-chaos which has been of interest here. Undoubtedly, his words lend themselves to different interpretations. I read them as useful recognition of the potency of contingency, especially on strategy's human dimension, and as being in no way challenging to the theory of strategy.

There could hardly be a clearer example of a historical moment when events vastly incommensurate with human intention begin to follow from the efforts of an individual to cope with a situation than this otherwise ordinary Wednesday morning in May 1754 [when wounded French prisoners were massacred by George Washington's Indian allies]. Nothing could have been further from Washington's mind, or more alien to the designs of the men who had entrusted him with troops and ordered him to the Ohio Valley, than beginning a war. Neither he nor his masters imagined that they were setting in train events that would destroy the American Empire of France. Much less could they have foreseen that a stunning Anglo-American victory would lead to yet another war, one that would destroy Britain's empire and raise in its ruins the American republic that Washington himself would lead.

So extraordinary indeed were the events that followed from this callow officer's acts and hesitations that we must begin by shaking off the impression that some awesome destiny shaped occurrences in the Ohio Valley during the 1750s. For in fact the presence of French troops and forts in the region, the determination of Virginia's colonial governor to remove them, and the decisions of the French and British governments to use military force to back up the manoeuvring of the colonists deep in the American interior all resulted from the unusually powerful coincidence of some very ordinary human factors: ambition and avarice, fear and misunderstanding, miscalculation and mischance. How such a

combination could produce a backwoods massacre is not, perhaps, hard to imagine. How that particular butchery gave rise to the greatest war of the eighteenth century, however, is less easy to explain.[42]

But explain it he does. Easily or not, plausibly or not, and certainly in different ways, historians and social scientists can explain anything and everything. In earlier chapters we have explained how the French Royal Army (with some volunteer assistance) at Valmy in 1792 was transformed into the temporarily peerless Grande Armée of 1805–6; how the foot, horse, and guns of 1914 became the genuinely combined-arms, firepower-heavy, instrument of 1918; and how an age of atomic plenty saw a global audit of literally a handful of American nuclear weapons grow into a thoroughly operationally unusable all-country total inventory well in excess of 50,000 weapons (of all sizes and yields, for all purposes) by the mid-1980s. In each of these cases of RMA it can be argued that the military context came to dominate the political. The French Army of the Revolution and Empire needed war both to pay for past wars and to satisfy the personal needs of its soldiers (and leaders). By 1917–18, the cost of the Great War had become so enormous that its military demands at least appeared to demote the political context to that of a function supporting the belligerency. As for the nuclear RMA of the Cold War, the rival superpowers constructed and operated competing nuclear arsenals for eminently rational motives which yet appeared for a long period to have scant connection with their political context. As we have noted, the modern theory of arms control was invented and practised by the United States, though not by the USSR, precisely as an intended alternative to an unattainable political accommodation.

Writers who seek dramatic contingency are not usually disappointed. Not implausibly, the Napoleonic RMA can be attributed in large part to a necessarily unique genius. The RMA of the First World War, by a more indirect logic of contingent triggering, might just be attributed significantly to that weakness of character of Kaiser Wilhelm II which permitted the July crisis of 1914 to unfold as it did. The RMA of the Cold War could be traced to the scientific contingency of Otto Frisch and Rudolf Peierls' calculation in February 1940 of the encouragingly modest mass of fissile material required for achievement of criticality to produce a self-sustaining chain reaction for an atomic bomb. The subsequent discovery of plutonium (as a practical alternative to enriched uranium) as an artificial element similarly was a significant triggering event. All of these examples are, of course, grossly reductionist and wholly inadequate in different ways as standalone keys to reveal the mysteries of strategic history.

Undue focus on RMAs leads to reductionism, while overmuch contextuality sees the nominal RMA subject disappear into the general warp and woof of the course of history as usual. The tight Clausewitzian definition of strategy, and the provision of a clear general theory of strategy, as

maintained here, should suffice to reconcile the need for focus in historical comparisons with the necessity for context. The message of our case studies, as it is of the recent debate over a possible I-led RMA, is that they derive their meaning from and in terms of strategy, for their net contribution to the strategic effectiveness which is intended to forward the ends of high policy.

The US defence community is distinctly prone to prefer to debate military instruments themselves rather than their possible strategic utility. We conclude this long journey on the positive note of an encouraging comment from a spokesman for the Department of Defense of the second Bush administration. Referring to the general eagerness to know what changes to current and near future defence budgets would be requested, he advised that 'Everyone wants to get the numbers, but you have to do the strategy first, so you have the philosophical underpinning before you start spending money.'[43] The value of an RMA can be assessed, and is tested, ultimately only according to strategic criteria, and those criteria all relate to success or otherwise in the support of policy. Policy and strategy are difficult to do well and very few people formally are charged to attempt to do them. It follows that almost everyone in a defence community is encouraged by self-interest and other natural inclinations to focus narrowly on the means of strategy rather than its ends. The RMA debate of the 1990s is recent proof of the validity of this judgement. Here I have sought to stimulate a broader discussion on whether, why, when, how, and with what consequences, RMAs happen.

NOTES

1 . See Williamson Murray and Allan R.Millett (eds), *Military Innovation in the Interwar Period* (Cambridge: Cambridge University Press, 1996); Williamson Murray and Allan R.Millett, *A War To Be Won: Fighting the Second World War* (Cambridge, MA: Harvard University Press, 2000), ch. 1; and, yet again, Williamson Murray, 'May 1940: Contingency and Fragility of the German RMA', in McGregor Knox and Murray (eds), *The Dynamics of Military Revolution, 1300–2050* (Cambridge: Cambridge University Press, 2001), pp. 154– 74. Anyone in peril of being overimpressed by claims for RMA in the interwar years should be duly sobered by J.P.Harris, 'The Myth of Blitzkrieg', *War in History*, 2, 3 (November 1995), pp. 335–52; and Stephen Biddle, The Past as Prologue: Assessing Theories of Future Warfare', *Security Studies*, 8, 1 (Autumn 1998), pp. 1–74.

2 . For example, as developed in Harold Deutsch and Dennis Showalter (eds), *What If? Strategic Alternatives of WWII* (Chicago, IL: Emperor's Press, 1997); Niall Ferguson (ed.), *Virtual History: Alternatives and Counterfactuals* (London: Picador, 1997); and Robert Cowley (ed.), *What If?* (London: Macmillan, 2000).

3 . Donald Kagan and Fredrick W.Kagan, *While America Sleeps: Self-Delusion, Military Weakness, and the Threat to Peace Today* (New York: St Martin's Press, 2000), pp. 2, 20–1, is usefully sceptical of the concept of the peer competitor.

4 . See J.F.Lazenby, *Hannibal's War: A Military History of the Second Punic War* (Warminister: Aris & Phillips, 1978); Alvin Bernstein, 'The Strategy of a Warrior-State: Rome and the Wars Against Carthage, 264–201 BC', in Williamson Murray, MacGregor Knox, and Bernstein (eds), *The Making of Strategy: Rulers, States, and War* (Cambridge: Cambridge University Press, 1994), esp. pp. 76–83; and Nigel Bagnall, *The Punic Wars: Rome, Carthage and the Struggle for the Mediterranean* (London: Pimlico, 1999), pt 4.

5 . Robert H.Scales, Jr, *Future Warfare Anthology* (Carlisle, PA: US Army War College, n.d.), p. 36.

6 . Ibid.

7 . Carl von Clausewitz, *On War*, trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976 [1832]), pp. 75 (emphasis in original), 77.

8 . David M.Glantz and Jonathan House, *When Titans Clashed: How the Red Army Stopped Hitler* (Lawrence: University Press of Kansas, 1995); and Horst Boog and others, *Germany and the Second World War: Vol. IV, The Attack on the Soviet Union* (Oxford: Oxford University Press, 1998). In *A War to Be Won*, Murray and Millett offer unstinting praise of the Soviet way in war by 1944. They conclude persuasively that 'the Soviets displayed the greatest abilities at the operational level of war. From [operation] Bagration, which took out virtually all of Army Group Center in Summer 1944, to the operations that destroyed German forces in East Prussia and Poland in winter 1945, Soviet commanders exhibited outstanding capabilities in deception, planning, and the conduct of operations. Their victories were far superior to anything the Germans had achieved early in the war' (p. 683).

9 . The fragility of Napoleon's command system is emphasised repeatedly in David Chandler, *The Campaigns of Napoleon* (London: Weidenfeld & Nicolson, 1967), e.g. pp. 504, 860, 939.

10 . Clausewitz, *On War*, p. 79.

11 . It is far too soon for reliable histories of the East-West Cold War to be written, but the following appear to have merit: Richard Crockatt, *The Fifty Years War: The United States and the Soviet Union in World Politics, 1941–1991* (London: Routledge, 1995); John Lewis Gaddis, *We Now Know: Rethinking Cold War History* (Oxford: Clarendon Press, 1997); and Norman Friedman, *The Fifty-Year War: Conflict and Strategy in the Cold War* (Annapolis, MD: Naval Institute Press, 2000).

12 . A proposition argued, perhaps a truth revealed, throughout Colin S.Gray, *Modern Strategy* (Oxford: Oxford University Press, 1999).

13 . See Chandler, *Campaigns of Napoleon*, pp. 1022, 1068.

14 . See Ch. 4 above.

15 . Biddle assigns a key significance to the management of complexity in explaining successful military performance in the twentieth century. He promotes that managerial competence to a controlling importance in historical explanation. His argument against the validity of RMA theories for the past hundred years points instead to the thesis of ‘essential continuity’, keyed to the vital role of managing the ever increasing complexity of modern warfare: ‘Past as Prologue’.

16 . The structure of asymmetrical struggle between land powers and sea powers is the central thread to Colin S.Gray, *The Leverage of Sea Power: The Strategic Advantage of Navies in War* (New York: Free Press, 1992). For other examinations in this realm see James Cable, *The Political Influence of Naval Force in History* (London: Macmillan, 1998); Raja Menon, *Maritime Strategy and Continental Wars* (London: Frank Cass, 1998); and Norman Friedman, *Seapower As Strategy: Navies and National Interests* (Annapolis, MD: Naval Institute Press, 2001).

17 . Clausewitz, *On War*, p. 85.

18 . See Desmond Ball and Jeffrey Richelson (eds), *Strategic Nuclear Targeting* (Ithaca, NY: Cornell University Press, 1986); William C.Martel and Paul L.Savage, *Strategic Nuclear War: What the Superpowers Target and Why* (Westport, CT: Greenwood Press, 1986); Lawrence Freedman, *The Evolution of Nuclear Strategy*, 2nd edn (New York: St Martin’s Press, 1989); Janne E.Nolan, *Guardians of the Arsenal: The Politics of Nuclear Strategy* (New York: Basic Books, 1989); and Scott D.Sagan, *Moving Targets: Nuclear Strategy and National Security* (Princeton, NJ: Princeton University Press, 1989). Alas, ideas about nuclear targeting had little operational relevance save in the contexts, first, of command and control, and second, of the enemy’s military strategy. On the first, selected from a large literature, see Bruce G.Blair, *Strategic Command and Control: Redefining the Nuclear Threat* (Washington, DC: Brookings Institution, 1989); on the second, see John G.Hines, *Soviet Intentions, 1965–1985: Vol. I, An Analytical Comparison of US-Soviet Assessments During the Cold War*, and *Vol. II, Soviet Post-Cold War Testimonial Evidence* (McLean, VA: BDM Federal, 22 September 1995); and William E.Odom, *The Collapse of the Soviet Union Military* (New Haven, CT: Yale University Press, 1998), ch. 5.

19 . The logic of this argument is developed and explained impeccably in Michael Quinlan, *Thinking about Nuclear Weapons* (London: Royal United Services Institute for Defence Studies, 1997), esp. p. 15.

20 . ‘Those of the generation that won the war, at least in Britain, may have emerged weary and disillusioned, but they had no doubt that the war had to be fought, and that the victory was worthwhile. It is not for us to say that they were wrong’: Michael Howard, ‘The Great War: Mystery or Error?’, *The National Interest*, 64 (Summer 2001), p. 84.

21 . The literature on world order(s) has begun to grow of recent years. For examples, see Andrew Williams, *Failed Imagination? New World Orders of the Twentieth Century* (Manchester: Manchester University Press, 1998); and Ian Clark, *The Post-Cold War Order: The Spoils of Peace* (Oxford: Oxford University Press, 2001).

22 . Martin van Creveld has had this to say about the long-time search for a ‘credible’ employment strategy for nuclear weapons: ‘Of the numerous theories they [very large numbers of analysts in government, the military, and various think tanks] proposed, not a single one ever showed the slightest promise of achieving its goal’: ‘Through a Glass, Darkly: Some Reflections on the Future of War’, *Naval War College Review*, 53, 4 (Autumn 2000), p. 31. Van Creveld’s opinion closely follows that offered by Lawrence Freedman. ‘No operational nuclear strategy had yet [to 1981] been devised that did not carry an enormous risk of degenerating into a bloody contest of resolve or a furious exchange of devastating and crippling blows against the political and economic centres of the industrialised world’: *Evolution of Nuclear Strategy*, p. 395. Unsurprisingly, Freedman’s judgement on US strategy in the 1980s was no more upbeat than was his view of the earlier decades (pp. 432–3).

23 . Freedman does not so much deny, as sidestep, this point. ‘The standard question, “What do we do if deterrence fails?” is largely beside the point not because failure is inconceivable, but because it is extremely unlikely under current political circumstances’: *Evolution of Nuclear Strategy*, p. 432. Well, probably so, but just as many defence analysts are prone to flee to the sanctuary of narrow technical issues, so academic strategic thinkers can be guilty of seeking undue shelter beneath political cover. The plain fact is that the United States required a nuclear strategy and the war plans to give expression to it. It is not especially damning of such strategy and plans to judge them—insofar as they are accessible to outsiders—exceedingly high-risk in character, or even in nature. One might ask how plans for general nuclear war could be otherwise.

24 . An argument advanced strongly in Henry Kissinger, *Diplomacy* (New York: Simon & Schuster, 1994), ch. 18. See also Melvyn P.Leffler, *A Preponderance of Power: National Security, the Truman Administration, and the Cold War* (Stanford, CA: Stanford University Press, 1992); and Michael J. Hogan, *A Cross of Iron: Harry S.Truman and the Origins of the National Security State, 1945–1954* (Cambridge: Cambridge University Press, 1998).

25 . An argument developed in Colin S.Gray, *Weapons for Strategic Effect: How Important is Technology*? Occasional Paper 21 (Maxwell AFB, AL: Centre for Strategy and Technology, Air War College, January 2001).

26 . If the course and outcome of war is driven by 'permanently operating factors', then the negative effect of surprise, as in June 1941, should prove ephemeral. According to Stalin the factors were: '(1) the stability of the rear, (2) the morale of the army; (3) the quantity and quality of divisions; (4) the armaments of the army; (5) the organizational ability of command personnel': David M.Glantz, *The Military Strategy of the Soviet Union: A History* (London: Frank Cass, 1992), p. 174.

27 . Bill Owens, *Lifting the Fog of War* (New York: Farrar, Straus, & Giroux, 2000) p. 97.

28 . This logic is developed and explained with unequalled clarity in Keith B.Payne, *The Fallacies of Cold War Deterrence and a New Direction* (Lexington: University Press of Kentucky, 2001).

29 . See George W.Baer, *One Hundred Years of Sea Power: The US Navy, 1890–1990* (Stanford, CA: Stanford University Press, 1994), ch. 6, 'Treaty Navy, 1922–1930'; and Colin S.Gray, 'Clausewitz Rules, OK? The Future is the Past—with GPS', in Michael Cox, Ken Booth, and Tim Dunne (eds), *The Interregnum: Controversies in World Politics, 1989– 1999* (Cambridge: Cambridge University Press, 1999), pp. 161–82.

30 . A controversial book by Richard Bernstein and Ross H.Munro remains the strongest extended analysis extant: *The Coming Conflict with China* (New York: Alfred A.Knopf, 1997). Two essays by Aaron L.Friedberg expose the structure of the issue extremely well: 'Will Europe's Past be Asia's Future? *Survival*, 42, 3 (Autumn 2000), pp. 147–59; and 'The Struggle for Mastery in Asia', *Commentary Magazine*, November 2000, <www.commentarymagazine.com/0011/friedberg.html>.

31 . Williamson Murray and MacGregor Knox, 'Conclusion: The Future Behind Us', in Knox and Murray, *Dynamics of Military Revolution, 1300–2050*, pp. 192–3.

32 . A somewhat parallel point is made by Baer when he discusses the US Navy's problems with War Plan Orange (against Japan) in the 1930s. 'Operations received the main attention because, lacking an answer to the primary question of all strategic thinking—namely, What is the political goal of the military action?—that was all there was for the Navy to think about': *One Hundred Years of Sea Power*, p. 120.

33 . This general judgement owes much to the superior analysis in Robert B.Bathhurst, *Intelligence and the Mirror: On Creating an Enemy* (London: SAGE Publications, 1993).

34 . A claim well sustained by Keith B.Payne: *Deterrence in the Second Nuclear Age* (Lexington: University Press of Kentucky, 1996); and *Fallacies of Cold War Deterrence and a New Direction*

35 . See Edward S.Quade (ed.), *Analysis for Military Decisions: The RAND Lectures on Systems Analysis* (Chicago: Rand McNally, 1964); Charles J.Hitch, *Decision-Making for Defense* (Berkeley: University of California Press, 1965); Charles J.Hitch and Roland N.McKean, *The Economics of Defense in the Nuclear Age* (New York: Atheneum, 1966); and E.S.Quade and W.I.Boucher (eds), *Systems Analysis and Policy Planning: Applications in Defense* (New York: American Elsevier, 1968).

36 . This thought places a fairly fundamental question mark over all RMA theory. A cognate point also has impressed Stephen Biddle: ‘To argue, however, that an RMA has not yet been realised but can be achieved by ordinary, gradualist, incremental adaptation is to render moot the RMA thesis as a current-day policy concern. If the policy implications of RMA and non- RMA are the same—gradual incremental adaptation to continuously changing technology— then why does it matter whether we declare the late twentieth-century a “revolution” or not? The importance of the RMA debate lies in its policy consequences; if these are defined away, the distinction degenerates to mere semantics’: ‘Past as Prologue’, p. 51 n124.

37 . The most enlightening introduction to this naturally opaque subject is Steven Metz and Douglas V. Johnson II, *Asymmetry and US Military Strategy: Definition, Background, and Strategic Concepts* (Carlisle, PA: Strategic Studies Institute, US Army War College, January 2001).

38 .‘[A] theory need not be a positive doctrine, a sort of *manual* for action…theory then becomes a guide to anyone who wants to learn about war from books; it will light his way, ease his progress, train his judgement, and help to avoid pitfalls’: Clausewitz, *On War*, p. 141 (emphasis in original).

39 . Fred Anderson, *Crucible of War: The Seven Years’ War and the Fate of Empire in British North America*, 1754–1766 (London: Faber & Faber, 2000), p. xxiii.

40 . Ibid., pp. xvii–iii (emphasis added).

41 . Biddle probably would disagree: ‘Past as Prologue’.

42 . Anderson, *Crucible of War*, p. 7.

43 . Quoted in Thomas E.Ricks and Walter Pincus, ‘Pentagon to Abandon Two-War Strategy’, *International Herald Tribune*, 8 May 2000, pp. 1, 4.