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THE CONTINENTAL SCHOOL OF STRATEGY:

The Past, Present and Future of Land Power

by

Michael Evans

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CONTENTS

ABBREVIATIONS AND ACRONYMS

ECC	effects coordination cells
FEBA	forward edge of the battlefield
FLOT	forward line of troops
GPS	global positioning systems
ISTAR	intelligence, surveillance, target acquisition and reconnaissance
NATO	North Atlantic Treaty Organisation
RMA	Revolution in Military Affairs
UAV	unmanned aerial vehicles
US	United States

AUTHOR'S PREFACE

Over the next decade the world's advanced armies will be confronted by a transition away from industrial-age, linear battlefields based on the power of mass toward information-age, nonlinear battlespaces based on the power of networks. As the age of the battlefield yields to the age of the battlespace, the changes in military organisation, training, doctrine and, above all, in professional military education that will accompany new strategic and operational requirements will be far reaching.

Unlike mistakes in other professions, military mistakes are paid for in blood and human life. It is this unique cost that places a grave moral and intellectual responsibility on all military practitioners to study the evolution of modern land warfare with the same rigour that lawyers bring to the study of legal precedents and surgeons employ when operating on the anatomy of the human body. Ultimately, military history remains the only reliable corpus of knowledge for making informed judgments about contemporary military conditions. An understanding of how the past and present of warfare interlock is vital because the complexity of current military conditions requires a rigour of thought that demands a lifelong commitment to the study of the profession of arms. Modern armies can no longer afford to think about war exclusively in terms of a symmetrical battlefield contest between like-minded professionals. Instead, those in uniform must contend with a spectrum of nonlinear conflict that embraces both asymmetry and a continuum of peace, crisis and war, and in which modes of action involve multi-service warfare.

Accordingly, military practitioners must conceptualise their missions not simply in single-service terms, but as representing the use of land power as a component of armed force employed in joint operations. Paradoxically, the use of land power as a component in joint warfare requires increased knowledge of how

ground operations fit in a suite of capabilities, what effects they are expected to achieve, and how they contribute to a successful strategic outcome. In short, successful joint warfare depends on an intimate knowledge of the special characteristics that each environmental service brings to the prosecution of operations.

This study represents an attempt to understand the evolution of the role of land power as an instrument of war and statecraft in both discrete and joint conditions. It subjects land power to analysis through the lens of the continental school of military strategy. It has been within the framework of this school that most of the main developments in land warfare have occurred since the early 19th century. The aim of scrutinising these developments is to contribute to the historical and contemporary knowledge of how the means of land power have served, and can continue to serve, the political ends of strategy. In terms of methodology, this study seeks to link the past of land warfare from the early 19th century to the present and future of land power in the 21st century. It does so by using an analysis that draws on perspectives from both military theory and geopolitical thought.

In the process of researching and writing this monograph, I have incurred many intellectual debts and benefited from the generous advice of both soldiers and scholars. In particular, I would like to thank the Chief of Army, Lieutenant General Peter Leahy, AO, for his support of this project since mid-2002. I am grateful to Brigadier (now Major General) Duncan Lewis, DSC, CSC, who invited me to present a paper on future warfare covering several of the themes in this monograph to the exacting scrutiny of a ‘vintage wine’ audience of Australian Special Forces officers in July 2002.

Colonel Douglas Macgregor of the National Defense University, Washington, DC; Dr Roger Spiller, George C. Marshall Professor of Military History at the US Command and General Staff College; and Lieutenant Colonel Ralph Peters, USA (Retd) provided

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Michael Evans
June 2004

ABSTRACT

This monograph analyses modern land power through examining the continental school of strategy that emerged in early 19th-century Europe at the end of the Napoleonic Wars. The continental school of strategy is important because it has provided the essential knowledge for the theory and practice of land power over the past two centuries. Many of the continental school's principles continue to remain fundamental to an understanding of the use of ground forces in the early 21st century.

The argument advanced by this study is that land power operates in two dimensions: the intrinsic dimension of military theory and the extrinsic dimension of geopolitical thought. Only by analysing both of these areas, and the dialectic between them, through the prism of the continental school of military thought, can there be a comprehensive understanding of the evolution of land warfare. The monograph examines the intrinsic dimension of land power by presenting an overview of continental military theory from the age of Napoleon to the end of the Cold War.

The study argues that the intrinsic dimension of the continental school is important because it has led to the development of an autonomous body of professional knowledge on the art of land warfare, and it is this body of knowledge that has defined the operations of modern armies. Widely accepted concepts such as the levels of war (tactics, operations and strategy) and the operational art are products of continental European military theory. Surveying the extrinsic dimension of the continental school of land power, the monograph argues that this dimension involves using an army not as an autonomous element of war but as a component of geopolitics. In the extrinsic dimension of the continental school of strategy, land power becomes an aid to statecraft.

The monograph then examines contemporary challenges to the intrinsic and extrinsic dimensions of land power. These challenges emanate from the information technology revolution and the rise of the battlespace, globalisation and the emergence of an 'end of geography' school in military strategy. It is argued that many of the ideas drawn from the continental school of land strategy will remain relevant in the 21st century because knowledge of ground warfare and the practice of geopolitics will continue to define the contours of armed conflict.

The study attempts to demonstrate these realities by two means of analysis. First, the role of land power as an essential part of joint warfare is assessed. Second, the place of land power in the rise of effects-based operations is examined. The monograph contends that joint warfare and an effects-based approach to strategy are vehicles that can be used by armies to reinforce the vital role of ground forces in 21st-century conflict. The study concludes by reaffirming the territorial imperative in warfare and by upholding the vital role of the professional soldier across the spectrum of conflict in peace, crisis and war.

THE CONTINENTAL SCHOOL OF STRATEGY
The Past, Present and Future of Land Power

To understand the past and to judge the present is to foresee the future.

J. F. C. Fuller

Introduction

This study takes its inspiration from the American strategist Rear Admiral J. C. Wylie's contention that, among scholars, there has never been enough concentration on examining the conceptual and theoretical aspects of war. Writing in his 1967 book, *Military Strategy*, one of the classics in the 20th century's literature of military theory, Wylie observed:

> It [strategy] can and should be an intellectual discipline of the highest order and the strategist should prepare himself to manage ideas with precision and clarity and imagination in order that his manipulation of physical realities, the tools of war, may rise above the pedestrian plane of mediocrity . . . Strategy itself may not be a science [but] strategic judgment can be scientific to the extent that it is orderly, rational, objective, inclusive, discriminatory, and perceptive.[1]

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[1] See Rear Admiral J. C. Wylie, *Military Strategy: A General Theory of Power Control*, Rutgers University Press, New Brunswick, NJ, 1967, p. 10. Colin Gray has described Wylie's study as 'the best book of general theory on war and strategy to appear for more than a century'. It is difficult to disagree with his judgment. See Colin S. Gray, *Military Strategy*, Oxford University Press, Oxford, 1999, p. 87.

Admiral Wylie went on to appeal to those engaged in the study of strategy to avoid narrow, technical analysis. He called for the employment of a conceptual breadth that took into account not simply military factors, but their interaction with political, social and cultural realities through the embrace of what the admiral described as 'dichotomous thinking'.[2]

This monograph applies Wylie's conceptual approach to strategy, particularly the use of 'dichotomous thinking', in order to scrutinise the past, present and future of land power through examining the continental school of strategy—that body of corporate knowledge on land warfare drawn from the European experience. The study represents an exercise in how to think about land warfare, or what is increasingly referred to today as land power. Although the two terms are often used interchangeably by scholars as well as soldiers, the difference between land warfare and land power is a subtle one.

Land warfare pits the narrowness of a linear, and often solitary, battlefield against the nonlinear and frequently transparent battlespace of land power. War on land conjures up vivid images of great engagements between lines of combatants drawn from the writings of Sir Edward Creasy's, J. F. C. Fuller's and Russell F. Weigley's famous books on decisive battles.[3] Despite the incidence of frequent sieges and

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2 Wylie, *Military Strategy: A General Theory of Power Control*, pp. 13–14.

3 Sir Edward Creasy, *The Fifteen Decisive Battles of the World: From Marathon to Waterloo*, Oracle Publishing Ltd, Hertfordshire, 1996 edn; J. F. C. Fuller, *The Decisive Battles of the Western World and Their Influence Upon History*, Eyre & Spottiswoode, London, 1954–56; and Russell F. Weigley, *The Age of Battles: The Quest for Decisive Battle from Breitenfeld to Waterloo*, Pimlico, London, 1993.

indecision, land warfare is indelibly associated in the Western historical imagination with the decisive battles of the great captains such as Alexander the Great, Julius Caesar, Frederick the Great, Napoleon and Wellington. From this perspective, ground warfare is seen as a professional phenomenon confined to combatants and often isolated from civilians. As Weigley puts it, 'the grand-scale battle, with tens of thousands of soldiers fighting, cursing, trembling, falling, screaming in agony, dying, all in a spectacle covering an amphitheater-like field [is the] dramatic epitome of war'.[4]

In contrast to the 'dramatic epitome' and isolation of land warfare as an affair between contending military professionals, the idea of land power has a broader, more strategic connotation. Land power concerns the activities of soldiers in the field in situations that may not approximate to great battles, but in which warfighting skills are not only severely tested, but must be adapted to complex and ambiguous situations. Ground operations may occur amidst non-combatants and civilians who may, or may not, be insurgents. Military activity may also take place among a plethora of non-governmental bodies and international agencies as well as under the ever-present glare of a global electronic media.

Not surprisingly, the concept of land power concerns the use of armies across a spectrum of complex activities. Land power has been usefully defined as 'the ability in peace, crisis, and war to exert prompt and sustained influence on, or from, land'.[5]

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4 Weigley, *The Age of Battles: The Quest for Decisive Battle from Breitenfeld to Waterloo*, p. xi.

5 William T. Johnsen, *Redefining Land Power for the 21st Century*, Strategic Studies Institute, US Army War College, Carlisle, PA, May 1998, p. 6.

Essentially, land power views battles as the technical devices of war rather than as ends in themselves. Combat engagements represent vital parts of ground operations, but they do not represent the whole of a strategy that employs land forces.

Modern land power advocates tend to view ground forces as the most versatile instrument of policy that can be wielded by a state across the spectrum of peace, crisis and war. Moreover, to its advocates, land power is also regarded as the most powerful symbolic expression of a nation's commitment and determination when engaged in military operations—from humanitarian relief through peacekeeping to the ultimate test of warfighting. While most land power theorists believe that, in times of war, armies will exert the most decisive and lasting influence in strategy, they tend to value joint warfare. [6]

Indeed, even when ground forces dominate a conflict, as is the case in counterinsurgency warfare in Iraq in mid-2004, there remains in the minds of many land power protagonists a critical synergy between land, sea, air and space operations. It is an article of faith among modern soldiers that they cannot operate alone. As a result, perhaps more than many sea and air power advocates, modern land power theorists recognise the importance of interdependency in military operations.[7] In

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6 Harry Richard Yarger, 'Land Power: Looking Towards the Future through Green Lens' [*sic*], *Strategic Review*, Winter 1999, pp. 22–30.

7 For further discussions of land power in the early 21st century see Douglas A. Macgregor, *Breaking the Phalanx: A New Design for Landpower in the 21st Century*, Praeger, Westport, CT, 1997, ch. 1; Brigadier General David T. Zabecki, 'Landpower in History', *Armed Forces Journal International*, August 2002, vol. 140, no. 1, pp. 40–2; Steven Metz *et al*., *The Future of American Landpower: Strategic Challenges for the 21st-Century Army*, Strategic Studies

Wylie's words, 'the soldier cannot function alone. His flanks are bare, his rear is vulnerable, and he looks aloft with a cautious eye. He needs the airman and the sailor for his own security in doing his own job'.[8]

Since the end of the Cold War, the armies of advanced Western nations have been expected to operate across a spectrum of conflict that often involves simultaneous warfighting, peacekeeping and humanitarian aid—all conducted under the watchful lens of the electronic media. Given these conditions, traditional ideas about the use of land forces—particularly large, territorially based 'big battle' armies trained for mass warfare—have been, and continue to be, challenged by rapid changes in global politics, economics and technology. In a real sense, the notion of land power represents an attempt to try to theorise about the use of ground force components in new global political and technological conditions that place a premium on a joint warfare strategy. As Carl Builder reminds us, all armies require a guiding idea to match their times:

> An Army . . . requires a theory of an Army. Whether stated explicitly or implicitly, there must exist something in addition to its soldiers and tanks and guns—a concept, a strategy, a notion of who it is and what it wants to be, of what it is about and what it

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Institute, US Army War College, Carlisle, PA, March 1996; Brigadier C. S. Grant, 'The 2015 Battlefield', *The British Army Review*, Winter 2001–02, no. 128, pp. 5–13; and Steven Metz and Raymond Millen, *Future War/Future Battlespace: The Strategic Role of American Landpower*, Strategic Studies Institute, US Army War College, Carlisle, PA, March 2003.

8 Wylie, *Military Strategy: A General Theory of Power Control*, p. 54.

> wants to be about—a concept which is a source of inspiration and a means for explaining its actions, if only to itself.[9] [*sic*]

In order to understand land power in Builder's terms, and to discern its possible patterns of direction in the early 21st century, it is first necessary to examine the past of land warfare. In a modern historical sense, that past is embodied in the school of continental strategy that arose with Napoleon and that was refined over the next century and a half by military competition in Europe. From the early 19th century until at least the mid-20th century, Western strategy—like Western culture and philosophy—was continental European in its origins, character and development.

The aim of this study is to trace the subtle transition away from land warfare based on large mass armies and linear constructs of warfare towards land power based on smaller armies that exploit information technologies to execute nonlinear joint operations. The prism for the analysis of the past, present and future of land power is the continental school of strategy—the great European school of modern land warfare—which can be traced from the time of the Napoleonic Wars in the early 19th century to the late 20th century. The methodology employed conforms to Wylie's broad 'dichotomous thinking' in that it uses an analysis of the history of both military and geopolitical theory as a basis for examining present and possible future trends in the development of land power.

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9 Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis*, The Johns Hopkins University Press, Baltimore, MD, 1989, p. 87.

A concentration on the history of military theory provides a perspective into time and change in warfare on land. A focus on geopolitical theory provides an understanding of how spatial realities condition the role of land forces in statecraft during times of armed conflict. When combined, both perspectives provide education in the art of warfare waged by armies. By focusing on the military theoretical and geopolitical aspects of the continental school of strategy, it is hoped that this monograph will be of particular value to military practitioners. Indeed, this study was originally conceived with the needs of uniformed professionals in mind. However, defence analysts that seek to understand the use of land power both as an independent instrument and as a tool in the kit-box of modern joint strategy may also find this monograph useful.

Two clarifications regarding terminology and analytical approach should be noted from the outset. First, throughout this monograph, the term *land warfare* is generally used to refer to the dominance of linear warfare well into the 20th century. In contrast, the term *land power* is generally used to indicate the use of armies in the broader geopolitical sense, and more specifically to explain the use of ground forces in the context of the rise of full-spectrum operations during the late 20th century. However, whichever term is employed, the common denominator in both is activity by soldiers on land. For this reason, the reader should not assume a rigid demarcation in terminology, and an inevitable overlapping in terminology occurs throughout the pages that follow.

Second, in terms of approach, this monograph is selective in its scope and treatment of the continental school of military thought. The analysis presented here is not a detailed chronology of European warfare on land so much as snapshots

of the continental school of strategy's most important and enduring features in military theory and practice. The intention is to produce an overview—a *longue durée*—that captures the flow of continuity and change in the development of land warfare. The ultimate goal is to provide a body of analysis against which it is possible to test the relevance of continental school's corporate knowledge for land power theorists and practitioners in the new millennium. As a result, the main focus in the historical treatment of the continental school of arms is on those aspects from the early 19th century to the mid-20th century that have decisively contributed to the development of a modern conception of land warfare.

In constructing an overview of the major school of land warfare, five areas are subjected to examination. First, the meaning of the continental school of strategy as the womb in which modern land warfare developed is defined and the various factors that determine the pursuit of such a strategy are explored. It is argued that the school of continental strategy is best understood in terms of Wylie's 'dichotomous thinking' in that it operates in two dimensions: the intrinsic dimension of military theory and the extrinsic dimension of geopolitical theory. Examining the interaction of both dimensions highlights the complexity and the changing character of land warfare.

The second area of examination concentrates on sketching the evolution of the intrinsic, or military theoretical, dimension of land warfare. It is suggested that, in terms of military theory, the continental European school of arms is largely concerned with the emergence of an autonomous science of battle knowledge, a technical lexicon of warfighting. The continental school of strategic thought is closely linked to both 19th-century classical warfare through its formulation of the

levels of war—tactics, operations and strategy—and to 20th-century ideas of the operational level of war and of the operational art. Several important sub-themes are introduced for analysis in this second section. These sub-themes include the impact of the continental European school of arms on American land warfare theory and practice, and an assessment of recent debates over the continuing relevance of the levels of war and the applicability of the operational art in new 21st-century military conditions.

The third theme in this essay addresses how, through the application of modern geopolitical thought, land-based 20th-century European continental strategy possesses an extrinsic dimension and operates as an important component in the formulation of grand strategy. Through the use of geopolitics, land power transcends the autonomy of its immediate environmental knowledge in order to be more broadly conceived as an instrument for achieving national objectives. Through the agency of its extrinsic dimension, land power can be seen in holistic terms, and its special characteristics can be better understood and properly integrated with sea and air power.

Fourth, the impact of the information age on land power is assessed through the lens of 'the end of geography' debate. The claims of proponents of the superiority of networks and cyberspace power on the one hand and the views of advocates of land power and geopolitics on the other hand are examined. Finally, the legacy of the continental school of strategy and its relevance for the exercise of land power in the 21st century are considered, employing insights from joint warfare, from chaos and complexity theory, and from the emerging field of effects-based operations.

Understanding Land Power: The Continental School of Strategy and its Dual Dimensions

Although the continental school of strategy is seldom referred to by contemporary military theorists, its influence on land warfare has been, and in many respects remains, profound. In the words of one writer, 'the continental school has been, and continues to be, the most important influence on the shape of conventional warfare'.[10] It is only through study of the evolution of the continental school that one can trace the development of land warfare and the significance of land power in strategy. Unless the military ideas of the European experience are understood, those that theorise about and practice land warfare cannot be said to be fully educated.

What is meant by reference to 'a continental school of strategy' and how does its approach relate to other schools of military thought? The American soldier–scholar, John M. Collins, has argued that, at the beginning of the 21st century, there are six identifiable schools of strategic thought. Three of these schools of thought are the traditional ones of the *continental* (or land power school dominated by the teachings of Carl von Clausewitz), the *maritime* (or command of the sea school whose devotees favour the teachings of Alfred Thayer Mahan), and the *aeronautical* (or air power school founded by the Italian theorist, Giulio Douhet). The other three schools are more recent and are the *astronautical* (the embryonic infosphere and space strategy school), the

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[10] Lieutenant Colonel D. M. Horner, 'The Continental School of Strategic Thought', *Australian Defence Force Journal*, May–June 1990, no. 82, p. 35.

special operations (or clandestine warfare school), and the *unifying* ('beyond joint' or integrated military power school).[11]

Collins identifies the continental school of strategy with modern land warfare in which the key influence is the 19th-century Prussian military philosopher, Carl von Clausewitz. In essence, a continental strategy refers to the waging of war in which the principal medium of conflict is the land as opposed to a maritime strategy, where the principal medium of conflict is the sea. In the continental school of strategy, the ultimate aim is the defeat of enemy armed forces by the use of armies supported by navies and air forces.[12] Collins's view is representative of a scholarly consensus that sees the continental school of military strategy as being synonymous with the theory and practice of land warfare.[13] This consensus is encapsulated in Roger W. Barnett's useful definition:

> The continental school [of strategy] argues that control over land is the organising principle of nation-states and politics. Man lives on the land, not in the sea [or air] and control of the land far supersedes in importance control over maritime areas or lines of communication. In historical perspective, conflict has taken place almost exclusively with control over territory as the stake in the contest. [14]

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11 John M. Collins, *Military Strategy: Principles, Practices and Historical Perspectives*, Brassey's Inc., Washington, DC, 2002, pp. 61–2.

12 *Ibid.*

13 See Wylie, *Military Strategy: A General Theory of Power Control*, chapters 1 and 5; Christopher Bellamy, *The Evolution of Modern Land Warfare: Theory and Practice*, Routledge, London, 1990, chapters 1–3; Horner, 'The Continental School of Strategic Thought', pp. 35–46; and Colin S. Gray, 'Geography and Grand Strategy', *Comparative Strategy*, 1991, vol. 10, p. 313.

14 Roger W. Barnett, 'Maritime and Continental Strategies: An Important Question of Emphasis', in Colin S. Gray and Roger

Geography and Continental Strategy

Writing about the importance of geography in human progress, the great French historian, Fernand Braudel, observed, 'to discuss civilisation is to discuss space, land and its contours . . . It is also to discuss what humanity has made of these basic conditions'.[15] Warfare on land is no exception to Braudel's observation. Indeed, the importance of geography is fundamental to the continental school of military thought, in the form of the utilisation of terrain, physical occupation of territory and contact with an enemy. These are the main factors by which the professional soldier's intellect is decisively shaped.

Historically, the annexation or control of territory by military forces has always been seen as 'the consecration of victory'.[16] Accordingly, in the search for mastery of the art of land warfare, adherents of the continental school have a spatial view of strategy. They tend to divide the globe into theatres of operations, regional areas of responsibility and local zones of action. In land warfare, armies move along lines of operation from decisive point to decisive point, focusing on dominating the geographic objectives that create the conditions for a conclusive engagement.[17] However, such a sequence of movement and dominance is frequently difficult for armies because land is the most complex of all military environments.

W. Barnett (eds), *Seapower and Strategy*, United States Naval Institute, Annapolis, MD, 1989, p. 355.

15 Fernand Braudel, *A History of Civilizations*, Penguin Books, New York, 1995, p. 9.

16 Raymond Aron, *Peace and War: A Theory of International Relations*, Weidenfeld & Nicholson, London, 1962, p. 182.

17 See John M. Collins, *Military Geography for Professionals and the Public*, National Defense University Press, Washington, DC, 1998, ch. 1.

Unlike the sea and air, land is heterogeneous: fighting in the desert is different from operations in the jungle, and both desert and jungle warfare are different from operating in mountainous terrain or in large urban areas.

Consequently, as Wylie has observed, unlike sailors and airmen, the soldier is compelled to occupy his medium of conflict rather than simply control it.[18] Occupying terrain often means continuous contact with the enemy and, once contending ground forces engage, it is not easy to withdraw or control the flow of events. Consequently, the continental strategist's traditional theoretical concepts of war embrace mass armies, large-scale decisive battles, and a preference for offensive action using both manoeuvre and attrition.[19] 'Land power', observes Collins, 'will bring conflicts to conclusion and therefore occupy enemy territory if required'.[20]

Adherence to the continental school of strategy is usually conditioned by a nation's strategic geography. The existence of a land power – sea power antithesis can be traced to antiquity through the works of writers such as Thucydides and Livy. Thucydides's history of the Peloponnesian War gives a brilliant account of the struggle between continental Sparta and

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18 Wylie, *Military Strategy: A General Theory of Power Control*, pp. 48–57.

19 Lieutenant Colonel D. M. Horner, 'Strategies of Land Warfare', *Australian Defence Force Journal,* January–February 1987, no. 62, pp. 48–9 and 'The Continental School of Strategic Thought', p. 39; and Martin Edmonds, 'Land Warfare', in Roger Carey and Trevor C. Salmon (eds), *International Security in the Modern World*, Macmillan Press Ltd, London, 1992, pp. 179–206.

20 Collins, *Military Strategy: Principles, Practices and Historical Perspectives*, p. 61.

maritime Athens in the 5th century BC. Similarly, Livy's history of the Punic Wars traces the long war between Rome, predominantly a land power, and Carthage, the great Mediterranean sea power, for supremacy of the ancient world.[21] Thus, since antiquity, polities have had to set environmental priorities for the conduct of strategy.[22] A state that finds itself with more land frontiers than coastline to secure will almost certainly tend to emphasise armies and land power as opposed to navies and sea power. The great British geographer, Halford Mackinder called this division a choice between 'land wolves and sea wolves'.[23]

Only two states in human history have possessed sufficient power to be both continental and maritime powers on a global scale, to be as it were, amphibious wolves: ancient Rome and the modern United States. Thus, when it comes to husbanding military resources, most modern states have had to make an ultimate choice between land and sea, between being a Sparta or an Athens.[24] As a result, for great continental powers such

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21 George Cawkwell, *Thucydides and the Peloponnesian War*, Routledge, London 1997, esp. ch. 3 on strategy; Livy, *The War with Hannibal: Books XXI–XXX of The History of Rome from its Foundation* trans. Aubrey de Sélincourt, Penguin Books, Harmondsworth, 1965; and Adrian Goldsworthy, *The Punic Wars*, Cassell, London, 2000, chapters 3–4.

22 Athanassios G. Platias and Constantine Koliopoulos, 'Grand Strategies Clashing: Athenian and Spartan Strategies in Thucydides' "History of the Peloponnesian War"', *Comparative Strategy*, 2002, vol. 21, no. 5, pp. 377–400.

23 Quoted in W. H. Parker, *Mackinder: Geography as an Aid to Statecraft*, Clarendon Press, Oxford, 1982, p. 149.

24 Colin S. Gray, 'Seapower and Landpower', in Gray and Barnett, *Seapower and Strategy*, pp. 3–27; Martin Wight, 'Sea Power and Land Power', in Martin Wight, *Power Politics*, ed. Hedley Bull and

as France, Germany and Russia, geographical position has dictated that the control of territory through land power be of more significance to their national strength than control of communications and overseas trade through maritime power.[25]

An emphasis on armies and land power does not, of course, mean that continental states have not recognised the strategic importance of sea power. In their respective bids for world supremacy, France under the Bourbons and Napoleon, Germany under the Hohenzollerns and Hitler, and Russia under the Commissars, all sought to become 'hybrid powers' and deployed formidable navies. Indeed, in the 1940s, the American military historian, Theodore Ropp, identified the existence of a continental school of sea power. The latter embraced the French *jeune école* and included a maritime raider strategy, the *guerre de course*, aimed at destroying seaborne commerce—elements of which were later adopted in German U-boat warfare.[26] Perhaps the greatest of all continental naval theorists was the French admiral, Raoul Castex, whose five-volume work on strategy was published during the 1930s.[27]

Carsten Holbraad, Leicester University Press, Leicester, 1978, pp. 68–80; and Williamson Murray and Mark Grimsley, 'Introduction: On Strategy', in Williamson Murray, MacGregor Knox and Alvin Bernstein (eds), *The Making of Strategy: Rulers, States and War*, Cambridge University Press, Cambridge, 1994, pp. 1–23.

25 Gray, 'Geography and Grand Strategy', pp. 311–29.

26 Theodore Ropp, 'Continental Doctrines of Sea Power', in Edward Meade Earle, *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler*, Princeton University Press, Princeton, 1943, pp. 446–56.

27 Raoul Castex, *Strategic Theories*, Naval Institute Press, Annapolis, MD, 1994, selections trans. and ed. Eugenia C. Kiesling.

Yet, while continental states may fight on both land and sea (and in the air), their prime focus is usually on the refinement of land power. For example, in Germany during the inter-war period, the nation's leading maritime theorist, Wolfgang Wegener, was virtually unknown to ordinary Germans. In contrast, generals such as Paul von Hindenburg and Erich von Ludendorff, who had led German troops during World War I, were important public figures.[28]

'Dichotomous Thinking': The Dialectic between Intrinsic and Extrinsic Dimensions in Continental Military Theory

Despite the obvious differences between continental and maritime strategy, the two schools of thought do resemble each other in that they possess a dialectic—that is, they contain dual but interrelated dimensions concerning their respective roles in strategy. There is in continental strategy a dialectic between the intrinsic dimension (professional knowledge of the autonomous military techniques of land power as part of the art of war) and the extrinsic dimension (understanding of the geopolitical role of land power as a factor in grand strategy). The work of Clausewitz conveys intrinsic knowledge about the art of war on land, while that of Mackinder describes the extrinsic role of land power as a tool of statecraft.

A parallel situation exists in maritime strategy. There is a purely intrinsic naval dimension involving oceanic battles and command of the sea, and a second extrinsic level involving the use of sea power as an element of grand strategy, including the

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[28] See Herbert Rosinski, *The Development of Naval Thought*, Naval War College Press, Newport, RI, 1977, pp. 59–63.

projection of land forces against continental foes.[29] In maritime strategy, the intrinsic dimension of mastery of naval warfare technique is encapsulated in the idea of command of the sea in which the great theorist is Alfred Thayer Mahan. The extrinsic dimension of maritime strategy, however, is best represented by the much broader work of Sir Julian Corbett. Corbett concentrated on the geopolitical role of sea power, not as a form of self-contained naval warfare, but as the maritime element in a nation's grand strategy.[30]

Similarly, in the continental school of strategy, the intrinsic dimension of continental warfare concerns mastering soldierly knowledge of the use of armies as instruments of armed force. In this first dimension, we are concerned essentially with the self-contained workings of military theory. Here professional soldiers concentrate on what Wylie describes as 'the problem of the strategic direction of armies'.[31] The aim is to use military theory to uncover the best tactical and operational methods by which the physical defeat or destruction of the enemy's land forces, and his will to continue fighting, can be ensured.

In the continental school of arms, military theory performs an important educative function in the refinement of warfighting

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29 The duality in maritime strategy is well-reflected in the writings of Julian S. Corbett, particularly his 1911 book, *Some Principles of Maritime Strategy*, Conway Maritime Press, London, 1972 edn. See Donald M. Schurman, *Julian S. Corbett, 1854–1922: Historian of British Maritime Policy from Drake to Jellicoe*, Royal Historical Society, London, 1981.

30 For comparisons between Mahan and Corbett see John Gooch, 'Maritime Command: Mahan and Corbett', in Gray and Barnett, *Seapower and Strategy*, pp. 27–46.

31 Wylie, *Military Strategy: A General Theory of Power Control*, p. 37.

tactical doctrine and operational technique. Military theory illuminates the intimate relationship between *knowledge* (how war is thought about) and *performance* (how war is waged) and represents 'a professionally justified, reliable system of beliefs about the nature of war'.[32] In respect to understanding the intrinsic dimension of continental strategy, the American scholar, Antulio J. Echevarria, offers a useful definition of military theory:

> Military theory involves the historical observation and the systematic study of organisations, strategies, techniques and procedures from antiquity to the present. It educates warfighters and policymakers alike, and provides a basis for developing doctrine that in turn provides a common philosophy for solving problems in the physical world, either through fighting or other means.[33]

While military theory is 'the whetstone of the mind', its ultimate test is the resolution of problems that confront and perplex practitioners of war. A special challenge for the theorist of war is that he must serve both the present and the future. A theorist must study the past using applied historical method. His aim is to become essentially a 'theorist of praxis' who simultaneously

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[32] James J. Schneider, *The Eye of Minerva: The Origins, Nature and Purpose of Military Theory*, School of Advanced Military Studies, US Army Command and General Staff College, Fort Leavenworth, KS, June 2002, p. 7. For further discussion of the relationship between military theory and practice, see Colonel Wallace P. Franz, 'The Art of War: Theory and Practice', *The Art of War Colloquium, Vol. II*, US Army War College, Carlisle Barracks, PA, September 1983, pp. 113–26; and Ian Clark, *Waging War: A Philosophical Introduction*, Clarendon Press, Oxford, 1988.

[33] Antulio J. Echevarria II, 'Dynamic Inter-Dimensionality: A Revolution in Military Theory', *Joint Force Quarterly*, Spring 1997, p. 30.

reflects on the past and contemplates the present, but always with a view to trying to anticipate future trends.[34]

The extrinsic dimension of continental strategy, like that of maritime strategy, transcends battle knowledge. At this second level, intellectual concern shifts to the geopolitical role that land power plays in the practice of a country's statecraft and strategy. The term *Geopolitik* was invented at the end of the 19th century by the Swedish political scientist, Rudolf Kjellen, in order to describe 'the terrain of diplomatic and military interplay'.[35] The methodology of geopolitics is spatial, but its subject matter is interdisciplinary and draws on strategy and politics.[36] In a crisp sentence, the leading geographer, Saul B. Cohen, has defined geopolitics as 'the relation of international political power to the geographical setting'.[37] While geopolitics is open to several different interpretations, ranging from geographic determinism to the spatial dimension of political inquiry, the term is employed in this monograph to describe the relevance of geography to the art of strategy in the

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[34] For a discussion see Julian Lider, *Military Theory: Concept, Structure, Problems*, Gower, Aldershot, 1983, ch. 1.

[35] Aron, *Peace and War: A Theory of International Relations*, p. 191.

[36] Geoffrey Parker, *Western Geopolitical Thought in the Twentieth Century*, St Martin's Press, New York, 1985, p. 2.

[37] Saul B. Cohen, *Geography and Politics in a World Divided*, 2nd edn, Oxford University Press, New York, 1973, p. 29; and 'Geopolitics in the New World Era: A New Perspective on an Old Discipline', in George J. Demko and William B. Wood (eds), *Reordering the World: Geopolitical Perspectives on the 21st Century*, Westview Press, Boulder, CO, 1994, pp. 40–68. See also Mackubin Thomas Owens, 'In Defense of Classical Geopolitics', *Naval War College Review*, Autumn 1999, vol. 52, no. 4, p. 60; and Geoffrey Parker, *Geopolitics: Past, Present and Future*, Pinter, London, 1998.

broadest sense. Geopolitical theory combines the analysis of geographical conditions, strategy and economics within an overarching intellectual framework.[38]

Many modern strategic terms—including those of sea power and land power, maritime and continental—are derived from geopolitical perspectives of strategy and international relations. As Albert Legault has observed, 'contemporary strategists all involve themselves in geopolitics when they refer to the classical antithesis between sea power and land power, depth of field and natural barriers, and forward defense or area defense networks'.[39] Even the German concept of *Blitzkrieg* has been claimed as a geopolitical term and defined in one leading study as 'the theory of the best use of tanks and other armour in land warfare'.[40]

In classical geopolitics, then, the use of land power becomes an element in the calculus of national power. In other words, a country's army becomes a component of *grand strategy* and the value of land power is not intrinsic, but extrinsic, and must

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38 Owens, 'In Defense of Classical Geopolitics', pp. 62–3. See also Brian W. Blouet, *Geopolitics and Globalization in the Twentieth Century*, Reaktion Books, London, 2001.

39 Albert Legault, 'Geopolitics and the Conduct of Modern Warfare', in Ciro E. Zoppo and Charles Zorgbibe (eds), *On Geopolitics: Classical and Nuclear*, Martinus Nijhoff Publishers, Dordrecht, 1985, p. 201. See also Paul F. Diehl, 'Geography and War: A Review and Assessment of the Empirical Literature', in Michael Don Ward (ed.), *The New Geopolitics*, Gordon and Breach, Philadelphia, 1992, pp. 121–37. For a detailed study of the relationship between geopolitics and strategy see G. R. Sloan, *Geopolitics in United States Strategic Policy, 1890–1987*, St Martin's Press, New York, 1988.

40 Geoffrey Parker, *Geopolitics: Past, Present and Future*, p. 184.

be judged in conjunction with a nation's other strategic resources such as sea power, coalitions and the husbanding of domestic economic strength. Grand strategy is a device that governments use in order to integrate their armaments with their policies. In Paul Kennedy's words:

> The crux of grand strategy lies . . . in the capacity of a nation's leaders to bring together all of the elements both military and nonmilitary, for the preservation and enhancement of the nation's long-term (that is wartime and peacetime) best interests . . . It is not a mathematical science in the Jominian tradition, but an art in the Clausewitzian sense—and a difficult art at that, since it operates at various levels, political, strategic, operational, tactical, all interacting with each other to advance (or retard) the primary aim.[41]

Without an understanding of the dialectic at work in the continental school of strategy, a student of war risks concentrating on either the intrinsic or the extrinsic dimension of land power. Such an approach is superficial and fails to do justice to the intellectual connection between elements of military theory and grand strategic thought. Because it is essential to understand the interaction of the intrinsic military theoretical and the extrinsic geopolitical dimensions of the continental school of strategy, a review of the historical evolution of both of these components is necessary.

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[41] Paul Kennedy, 'Grand Strategy in War and Peace: Toward a Broader Definition', in Paul Kennedy (ed.), *Grand Strategies in War and Peace*, Yale University Press, Yale, 1991, p. 5.

The Intrinsic Dimension of the Continental School of Strategy: Military Theory and the Evolution of Land Warfare

The theoretical development of the continental school of strategy is closely associated with the evolution of modern European land warfare. The continental school of military thought first emerged in the early 19th century and developed into the 20th century due to four main influences. The first influence was the experience of decisive land battle in Napoleonic warfare. Second, there was the theoretical codification of Napoleonic warfare by the two great 19th-century military theorists, Antoine-Henri Jomini and Carl von Clausewitz. This codification had the effect of disseminating the principles of modern land operations to successive generations of soldiers.

A third factor was the development of the Prusso-German general staff in the second half of the 19th century. The rise of the Prussian–German staff system saw an ideology of decisive battle transferred to industrial warfare conditions as Germany emerged to military greatness in Europe. The final development in the evolution of the continental school of strategy came in the inter-war period between 1918 and 1939. During these years, the rise of a modern European operational theory of warfare occurred, partly in Germany, but most decisively in the Soviet Union—a theory that spread to the West during the last two decades of the Cold War.

Napoleonic Warfare and the Classical Legacy

The experience of French revolutionary and Napoleonic warfare between 1792 and 1815—with its list of decisive

victories such as Marengo, Austerlitz, Jena and Waterloo—acted as the foundation stone of the continental school of strategy in the 19th century. These great military engagements reinforced the allure of the classical legacy of the great encounter battle in European military thought. Despite the prevalence of sieges and inconclusive military operations in both ancient and modern warfare, it is the legacy of decisive battle that has shaped military theory in Western culture. This legacy of decision by 'the practice of face-to-face battle to the death' was bequeathed by the victories of such figures as Alexander the Great, Hannibal and Julius Caesar.[42]

In the classical paradigm, warfare on land, as fought by Greek phalanxes, Carthaginian infantry and Roman legions, was perceived to have two levels: *strategy* (derived from the Greek word *strategika* or generalship) and *tactics* (derived from the Greek word *taktika* or the arrangement of forces). Strategy was narrowly interpreted as referring to the *art of the manoeuvre of forces towards battle* while tactics were seen as *the art of arrangement of forces on the field of battle*.[43] The classical paradigm of land warfare has been well described by the

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[42] John Keegan, *A History of Warfare*, Hutchinson, London, 1993, p. 389. On this point see also Weigley, *The Age of Battles: The Quest for Decisive Battle from Breitenfeld to Waterloo*, esp. chapters 14–20 and Brian Bond, *The Pursuit of Victory: From Napoleon to Saddam Hussein*, Oxford University Press, Oxford, 1996, *passim*.

[43] J. K. Anderson, *Military Theory and Practice in the Age of Xenophon*, University of California Press, Berkeley, CA, 1970, pp. 94–8; Doyne Dawson, *The Origins of Western Warfare*: *Militarism and Morality in the Ancient World*, Westview Press, Boulder, CO, 1996, pp. 79–80.

Soviet military theorist, G. S. Isserson, as representing 'the strategy of a single point'.[44]

Under the strategy of a single point, dense masses of troops with little or no linear extension or depth would meet in a lethal and concentrated battle compressed in both space and time. Once manoeuvre was concentrated at the decisive single point—on a flank or weakened centre—victory was usually achieved by the use of mass through breakthrough, envelopment or encirclement. In this way, both a military science and a cultural tradition of decisive battle was created—that which Victor Davis Hanson has called 'the Western way of war', a tradition that stretches from Scipio Africanus to Norman Schwarzkopf.[45]

Despite the impact of constant technological change, the main reason for the persistence of the tradition of classical military method in Western civilisation was that, for nearly 2500 years, field warfare on land remained characterised by conditions of unitary mass and single-point strategy. These characteristics would have been recognisable to the generals of the ancient world.[46] As late as the 18th-century Enlightenment, the classical legacy continued to form the

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44 James J. Schneider, 'The Loose Marble—and the Origins of Operational Art', *Parameters*: *US Army War College Quarterly*, March 1989,vol. 19, no. 1, pp. 85–98. See also Richard W. Harrison, *The Russian Way of War: Operational Art, 1904–1940*, University Press of Kansas, Lawrence, KS, 2001, chapters 3–4.

45 Victor Davis Hanson, *Why the West Has Won: Carnage and Culture from Salamis to Vietnam*, Faber and Faber, New York, 2001.

46 On this point see Arthur Ferrill, *The Origins of War: From the Stone Age to Alexander the Great*, Westview Press, Boulder, CO, 1997, pp. 215–23.

intellectual background for European military thinking, and authors such as Xenophon, Polybius, Julius Caesar and Vegetius were widely studied.[47] The power of ancient precedent proved highly influential. As one author has noted, between 217 BC (when Ptolemy IV fought Antiochus at Raffia) and 1815 (when Wellington defeated Napoleon at Waterloo) 'battle remained very much what it had always been: a question of men standing up at a certain carefully defined time and space . . . in relatively tight formations'.[48]

The point to grasp is that, at the beginning of the 19th century, and notwithstanding the science of the European Enlightenment and the political impact of the French Revolution, firearms technology had not yet invalidated the strategic and tactical techniques of the classical model of warfare. Smoothbore muskets and cannon were direct-fire weapons with limited range and, in order to be effective, required the use of mass formations organised in traditional lines and columns that in pre-gunpowder times employed archers, javelin throwers and pikemen. It is no accident that, when in 1594 Maurice of Nassau devised the crucial innovation of volley fire employing musketry, he did so based on the accounts of Roman javelin and sling-shot techniques described in Aelian's *Tactics*—a study written in about 100 AD.[49]

For these reasons, the military historian, Arthur Ferrill, has argued that, had Alexander the Great been present on the field

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47 Azar Gat, *The Origins of Military Thought from the Enlightenment to Clausewitz*, Clarendon Press, Oxford, 1989, pp. 7–8.

48 Martin Van Creveld, *The Art of War: War and Military Thought*, Cassell & Co., London, 2000, pp. 124–5.

49 Geoffrey Parker, 'What is the Western Way of War?', *MHQ: The Quarterly Journal of Military History*, Winter 1996, vol. 8, no. 2, p. 89.

at Waterloo in 1815, he would have instinctively understood Napoleon's battle plan. Despite the French Emperor's use of massed artillery and musketry, the scale of battle at Waterloo was still determined by features that were common to the generals of the classical world, namely the march, the manoeuvre, the infantry assault, the cavalry charge and reliance on horse-drawn logistics. At Waterloo, neither French nor British artillery proved decisive; the battle was won when cavalry and infantry, alone or together, closed with the enemy.[50]

The significance of Napoleon to the evolution of continental strategy was his refinement of the classical methods of linear warfare. He reinvigorated the ideal of the victorious engagement using the new national forces released by the French Revolution. He also reinforced tactical battle as the central force behind the theoretical development of modern land warfare. Yet, despite Napoleon's use of the *levée en masse*, his development of an army corps organisation and his employment of multiple theatres of operation, the French Emperor's methods remained traditional. Napoleon was, in essence, a grand master of the dual 'tactics–strategy' model of linear warfare—a model greatly expanded by his use of mass armies.[51]

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50 Ferrill, *The Origins of War: From the Stone Age to Alexander the Great*, pp. 215–23.

51 On this point see James J. Schneider, 'The Loose Marble—and the Origins of Operational Art', *Parameters*: *US Army War College Quarterly,* March 1989, vol. 19, no. 1, pp. 85–98 and *The Structure of Strategic Revolution: Total War and the Roots of the Soviet Warfare State*, Presidio Press, Novato, CA, 1994; Bruce W. Menning, 'Operational Art's Origins', *Military Review*, September–October 1997, vol. 77, no. 5, pp. 32–47; and Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, Frank Cass, London, 1997, ch. 2.

Napoleon's most important contribution to the art of war is sometimes seen as being in the area of operations or 'grand tactics'—that is, in the area of the connecting or intermediate link in war between strategy and tactics. The American military theorist, Colonel Wallace P. Franz, has argued that 'under Napoleon, the operational level came of age'. Through his corps system, Napoleon taught the meaning of manoeuvre warfare at the operational or grand tactical level and created 'three-dimensional war'.[52] Franz goes on to state:

> To what had been essentially two dimensions of military action—strategy and tactics—Napoleon added the grand tactical dimension. The contrast here is that of a two-dimensional doctrine versus a three-dimensional doctrine. Just as a two dimensional picture does not reflect the highest form of the art, so a two-dimensional military doctrine does not reflect the highest form of the art of war.[53]

It is, however, a misreading of Napoleon's influence and of his times to see him as the originator of a third or operational level of war and as the father of the operational art. If any 19th-century military figure deserves the latter description, it is arguably Ulysses S. Grant, the commander of the Union armies in the American Civil War of the 1860s, rather than Napoleon.[54]

In any event, as will be seen, the operational level of war did not emerge formally in the continental school of military

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[52] Colonel Wallace P. Franz, 'Grand Tactics', *Military Review*, December 1981, vol. LXI, no. 12, p. 32.

[53] *Ibid.*, p. 34.

[54] See Schneider, 'The Loose Marble—and the Origins of Operational Art', pp. 90–8.

theory until the 20th century.[55] Prior to that time, European commanders appear to have had the same relationship to the operational framework of war as Molière's bourgeois gentleman, Monsieur Jourdain, had with language. Just as Monsieur Jourdain was surprised to learn that he had been speaking prose all his life, Napoleon would have been surprised to learn of the existence of an operational level of war. The intellectual paradox that Napoleon presents to students of the continental school of strategic thought is captured by the American military theorist, James J. Schneider, in his observation:

> Napoleon himself gazes Janus-like from a crossroads in military history. From one perspective Napoleon looks back over two thousand years of warfare to predecessors who had all believed that the crowning achievement of a successful campaign was the decisive battle of annihilation. From the other perspective Napoleon looks outward toward the emergence of total war—a new style of war waged by the means of the Industrial Revolution and the methods of operational art.[56]

It is worth noting that Napoleon himself advised aspiring strategists that the only way to master the secrets of war was to study classical military literature. As he put it, 'read over and over again the campaigns of Alexander, Hannibal, Caesar,

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[55] For further views emphasising Napoleon as a pioneer of modern 'operational' warfare see Wallace P. Franz, 'Two Letters on Strategy: Clausewitz' Contribution to the Operational Level of War', in Michael I. Handel (ed.), *Clausewitz and Modern Strategy*, Frank Cass, London, 1986, pp. 171–96; Bellamy, *The Evolution of Land Warfare: Theory and Practice*, pp. 55–6; and Robert M. Epstein, *Napoleon's Last Victory and the Emergence of Modern War*, University Press of Kansas, Lawrence, KS, 1994, pp. 171–83.

[56] Schneider, *The Structure of Strategic Revolution: Total Warfare and the Roots of the Soviet Warfare State*, p. 26.

Gustavus, Turenne, Eugene and Frederic. Make them your models . . . reject all maxims opposed to those of these great commanders'.[57]

As Schneider has noted, the French Emperor was 'on the wrong side of the Industrial Revolution'.[58] In its technological essentials, Napoleonic warfare differed little from that waged by Frederick the Great of Prussia in the mid-18th century. From this perspective, Napoleon represented not so much modern operational-style warfare, but rather the apex of linear warfare—a mastery that rested on exploiting the phenomenon of revolutionary political conditions in Europe. Ultimately, the Napoleonic way of war, despite containing elements of distributed manoeuvre, amounted to 'a different genre within the same form of [classical] military art'.[59]

Jomini, Clausewitz and the Codification of Napoleonic Warfare

The second main influence on the evolution of the continental school of strategy was the writings of the two greatest 19th-century theorists of European warfare, Jomini and Clausewitz. Jomini's *Summary of the Art of War* and Clausewitz's *On War* were both published in the 1830s, and

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[57] Napoleon Bonaparte, 'Military Maxims of Napoleon', in Brigadier General T. R. Phillips (ed.), *Roots of Strategy: The Five Greatest Military Classics of All Time*, Stackpole Books, Harrisburg, PA, 1985, p. 432.

[58] Schneider, *The Structure of Strategic Revolution: Total War and the Roots of the Soviet Warfare State*, p. 29.

[59] *Ibid*., p. 138; and 'The Loose Marble—and the Origins of Operational Art', p. 86. On the phenomenon of mass in Napoleonic military method see also Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, pp. 30–4.

together these works codified the experience of modern land conflict in the wake of the Napoleonic wars.[60] Such was the combined influence of Napoleon, Jomini and Clausewitz that, in the words of Azar Gat, 'nothing fundamental seems to have changed in the way people in the Western world in the nineteenth century viewed war and military theory'.[61]

Jomini has been described by David Chandler, the doyen of Napoleonic scholars, as both a founder and a disseminator of the classical tradition in military theory in the 19th century.[62] Jomini viewed Napoleonic warfare as being in the mainstream of linear 'decisive point' classical strategy. Hence one of his fundamental maxims was: 'On the battlefield . . . throw the mass of the forces upon the decisive point, or upon that portion of the hostile line which it is of the first importance to overthrow'.[63] He wrote that, despite technical changes in military practice, 'strategy alone will remain unaltered, with its principles the same as under the Scipios and Caesars, Frederick and Napoleon, since they are independent of the nature of the arms and the organisation of the troops'.[64]

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60 Baron Antoine Henri de Jomini, *The Art of War*, Greenhill Books, London, 1992 edn; and Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret, Princeton University Press, Princeton, NJ, 1976.

61 Azar Gat, *The Development of Military Thought: The Nineteenth Century*, Clarendon Press, Oxford, 1992, p. 247.

62 David G. Chandler, 'Napoleon: Classical Military Theory and the Jominian Legacy', in David G. Chandler, *On the Napoleonic Wars: Collected Essays*, Greenhill Books, London, 1999, p. 248.

63 Jomini, *The Art of War*, p. 70.

64 *Ibid.*, p. 48. See also Brigadier General J. D. Hittle (ed.), 'Jomini and His Summary of the Art of War: A Condensed Version', in *Roots of Strategy*: *Book 2*, Stackpole Books, Mechanicsburg, PA, 1987, pp. 433; 452.

For Jomini, there was a universal military theory that stretched back over thirty centuries, unsullied by technological change. Consequently, 'the battles of Wagram, Pharsalia and Cannae were gained from the same original source'.[65] Jomini's view of Napoleonic warfare as possessing immutable principles was influential among European soldiers. In particular, Jomini's approach contributed to the tendency of adherents of the continental school of strategy to divorce war from its political and social context.[66]

Clausewitz's treatise, *On War*, was an even more powerful influence on the continental school of military thought, particularly after 1870. Yet in the second half of the 19th century, Clausewitz was constantly misinterpreted by a superficial reading of his text. *On War* is essentially two books in one. On one level, it is an unfinished philosophical masterpiece by the military equivalent of Copernicus or Newton that provides an exploration of the eternal nature of war as an extension of politics. On a second level, however, *On War* is an analysis of contemporary Napoleonic warfare—in effect a codification of the state of international war—as waged by the emerging nation-states of 19th-century Europe. In the European officer elite, Clausewitz's universal philosophical insights into the nature of war were often overlooked or misrepresented in favour of his interpretation of Napoleonic military method. [67]

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[65] Quoted by Gat, *The Origins of Military Thought from the Enlightenment to Clausewitz*, p. 112.

[66] John Shy, 'Jomini', in Peter Paret (ed.), *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, Oxford University Press, Oxford, 1986, p. 64.

[67] See for instance Jehuda L. Wallach, 'Misperceptions of Clausewitz' *On War* by the German Military' and Douglas Porch, 'Clausewitz

The significance of Clausewitz's account of Napoleonic warfare was his retention of the dual modes of strategy and tactics drawn from the model of classical warfare as a tool of intellectual analysis. Although it is true that Clausewitz does refer to the conduct of major operations, these are viewed under the rubric of strategy.[68] In discussing 'operative elements', Clausewitz focuses on the concentration and unification of forces in space and time, preferably for the purposes of a single strategic action.[69]

The idea of an operational aspect of war—as a link between tactics and strategy—was not at the centre of Clausewitz's attention and was not afforded the theoretical status of the duality of strategy and tactics.[70] In a formulation that would have been understood by Caesar, Clausewitz wrote under 'Classifications of the Art of War', 'according to our classification, then, tactics teaches *the use of armed forces in the engagement*; strategy, *the use of engagements for the object of the war*'.[71]

Clausewitz believed that, 'since the tactical endeavour [was] instrumental in the achievement of strategic results,

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and the French, 1871–1914', in Handel, *Clausewitz and Modern Strategy*, pp. 213–39 and 287–302; and Azar Gat, *The Development of Military Thought: The Nineteenth Century*, chapters 2–3.

68 Clausewitz, *On War*, pp. 176–83; 280–1.

69 *Ibid.*, *On War*, pp. 225; 204–9.

70 For a discussion of this important point see Raymond Aron, *Clausewitz: Philosopher of War*, Routledge & Kegan Paul, London, 1976, pp. 95–100; and Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, pp. 35–47.

71 Clausewitz, *On War*, p. 128. Emphasis in original. See also Aron, *Clausewitz: Philosopher of War*, p. 45.

Vernichtungsprinzip [the principle of destruction] denotes both the end and the means in war'.[72] Analysing Napoleon's style of war, Clausewitz noted that it was based on a relentless search for military decision through battle. Everything turned on tactical results and 'that is why we think it useful to emphasise that all strategic planning rests on tactical success alone'.[73] The idea of battlefield destruction underlined all military plans and actions 'like an arch on its abutment'.[74] Moreover, 'the wish to annihilate the enemy's forces is the first-born son of war'.[75]

Clausewitz's emphasis on the strategy of the decisive point was even more emphatic. 'The best strategy', he wrote in *On War*, 'is always *to be very strong*; first in general, and then at the decisive point'.[76] As John Gooch has noted, 'perhaps the most potent legacy of Napoleon—and one to which contemporary readings of Clausewitz contributed force in the latter half of the century—was the belief that the decisive battle was the goal of the practical strategist'.[77] The way in

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72 Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, p. 41 and pp. 30–6.

73 Clausewitz, *On War*, p. 386.

74 *Ibid.*, p. 99.

75 *Ibid*.

76 *Ibid.*, p. 204. Emphasis in original.

77 John Gooch, 'Making and Breaking the Rules: Orthodoxy, Heterodoxy, and Heresy in Modern War', in B. J. C. McKercher and A. Hamish Ion (eds), *Military Heretics: The Unorthodox in Policy and Strategy*, Praeger, Wesport, CT, 1994, p. 13. See also Lorenzo M. Crowell, 'The Illusion of the Decisive Napoleonic Victory', *Defense Analysis*, December 1988, vol. 4, no. 4, pp. 329–46; and David R. Jones, 'The Napoleonic Paradigm: The Myth of the Offensive in Soviet and Western Military Thought', in David A. Charters, Marc Milner and J. Brent Wilson (eds), *Military History and the Military Profession*, Praeger Publishers, Westport, CT, 1992, pp. 211–28.

which Clausewitz was interpreted by European military elites elevated the 'Napoleonic paradigm' to the summit of martial achievement in the evolution of the continental school of strategy. For professional soldiers what mattered in Clausewitz was his emphasis on major victory and his concept of imponderables in war such as chance and friction.[78]

The Industrial Revolution and the Prusso-German Model of War

The coming of the Industrial Revolution in the 19th century began the erosion of the classical model of European warfare. The industrialisation of transport and communications gave armies a new speed and capacity for distribution across space and in time that had been impossible in the age of horse-drawn military movement. The railway expanded the scale of the battlefield by permitting mass mobilisation of huge conscript armies. The invention of the telegraph permitted the integration and reinforcement of large, dispersed forces in a way that had been impossible for earlier armies dependent for command and control on visual line of sight and on mounted couriers.[79]

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78 Peter Paret, 'Clausewitz', in Paret, *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, p. 212; and *Clausewitz and the State: The Man, His Theories, and His Times*, Princeton University Press, Princeton, NJ, 1976, chapter 11.

79 See William McElwee, *The Art of War: Waterloo to Mons*, Weidenfeld and Nicolson, London, 1974, pp. 106–46; Hew Strachan, *European Armies and the Conduct of War*, George Allen & Unwin, London, 1983, ch. 8; Archer Jones, *The Art of War in the Western World*, Oxford University Press, Oxford, 1987, ch. 7; Edward Hagerman, *The American Civil War and the Origins of Modern Warfare: Ideas, Organisation and Field Command*, Indiana University Press, Bloomington, IN, 1988, Introduction and chapters 1 and 10–11; and Jeremy Black, *War: Past, Present & Future*, Sutton Publishing, Stroud, Gloucestershire, 2000, ch. 8.

Industrialisation also produced a revolution in weapons technology through breech-loaders, magazine-fed smokeless powder, machine guns and rapid-firing artillery. The power of modern weapons favoured the defensive and challenged both the ideology of the decisive battle and the strategy of the single point. In short, new technologies created a distributed battlefield. The strategy of the 'extended line' grew as railways and telegraph made battlefields longer and deeper, and as firepower made them stronger. Increasingly, flanks vanished and envelopment was replaced by positional warfare involving the need for attacking armies to penetrate a continuous front.[80]

As is often the case in military affairs, military theory lagged well behind military technology. Consequently, the reaction of most European military theorists was to attempt to adapt the methods of Napoleon and the interpretations of Clausewitz to the new tools of industrialisation. Initially, such an approach seemed successful, as demonstrated by the success of the Prusso-German General Staff in the 1860s. Under Field Marshal Helmuth von Moltke the Elder, industrial methods involving the combined use of railways, mass armies and breech-loading weapons were adapted to the task of seeking decisive victory according to the precepts of classical strategy. Both Moltke and later his most famous successor, Alfred von Schlieffen, 'taught and practiced a mode of offensive warfare

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[80] For a good analysis of these trends see James J. Schneider, 'The Theory of the Empty Battlefield', *RUSI Journal*, September 1987, vol. 132, no. 3, pp. 37–44. See also Martin van Creveld, *Technology and War: From 2000 BC to the Present*, The Free Press, New York, 1991, chapters 11–12.

that adapted to the industrial age Napoleon's precept to seek prompt decision by battle'.[81]

Moltke developed the notion of the *operativ*, or staff operation, using a modern general staff. It is important to note, however, that Moltke's notion of *operativ* did not equate to the modern operational level of war. Rather, in the Moltkean lexicon, the concept of the staff operation, the objective became the efficient planning of mobilisation and the movement of forces to concentrate mass for the *Vernichtungsschlacht*, or the decisive battle of destruction.[82] The key to success was seen as being the march–manoeuvre of mass armies, with the tactical engagement pivoting around the use of railways and the telegraph.

For these reasons, as Isserson noted in the early 1930s, Moltke's intellectual influence still belonged to the 'epoch of linear strategy'.[83] Yet, Moltke's rapid victories—first at

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[81] Gunther Rothenberg, 'Moltke, Schlieffen, and the Doctrine of Strategic Envelopment' and Hajo Halborn, 'The Prusso-German School: Moltke and the Rise of the General Staff', in Peter Paret (ed.), *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, Oxford University Press, Oxford, 1986, p. 296 and pp. 281–95.

[82] Roland G. Foerster, 'The Operational Thought of Moltke the Elder and Its Consequence', in Gunther Roth (ed.), *The Operational Thought of Clausewitz, Moltke, Schlieffen and Manstein*, Institute for Research in Military History, Freiburg, 1989, trans. Multilingual Translation Directorate, Secretary of State Canada, pp. 28–9; and John A. English, 'The Operational Art: Developments in the Theories of War, in B. J. C. McKercher and Michael A. Hennessy (eds), *The Operational Art: Developments in the Theories of War*, Praeger, Westport, CT, 1996, pp. 8–9.

[83] Quoted in Richard W. Harrison, *The Russian Way of War: Operational Art, 1904–1940*, University Press of Kansas, Lawrence, KS, 2001, pp. 204–5.

Königgrätz in 1866 over the semi-industrialised Austrians whose organisation was inferior, and then at Sedan in 1870 over the French—appeared to vindicate the methods of the Prusso-German general staff organisation and its system of warfighting in the eyes of European contemporaries.[84] By the beginning of the 20th century, German methods of mass, industrialised warfare on land had been almost universally adopted by European armies, leading to the flowering of the continental school of military thought.

However, as these armies developed similar types of weaponry and methods of organisation, so the possibility of positional warfare based on attrition grew. Indeed, European military theory became increasingly divorced from the true nature of warfare in an age of steam power and telegraphy. This reality was first demonstrated by the events of the American Civil War, the first great industrial-age war, but one shaped by European ideas of war—particularly those of Jomini. The Confederate general, Robert E. Lee, could not achieve victory by the use of Napoleonic-style encounter battles. Instead, success went to Union generals, notably Ulysses S. Grant, who employed attrition and positional operations to wear down the Confederate armies.[85]

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84 Colonel Michael D. Krause, 'Moltke and the Origins of Operational Art', *Military Review*, September 1990, vol. 70, no. 9, pp. 28–44; Bradley J. Meyer, 'The Operational Art: The Elder Moltke's Campaign Plan for the Franco-Prussian War', in McKercher and Hennessy, *The Operational Art*, pp. 29–50; and Gat, The Development of Military Thought: The Nineteenth Century, pp. 65–9.

85 Schneider, 'The Loose Marble—and the Origins of Operational Art', pp. 90–9.

After 1870, under the Napoleonic paradigm, the European continental school of strategy underwent a fatal divergence between modern technological capability and classical military theory. European strategists such as Graf von Schlieffen in Germany continued to emphasise the ideology of decisive battle, in effect suspending technological realism in favour of strategic idealism. Land warfare remained deeply rooted in the classical style premised on two-dimensional linearity, leading to what has been variously called 'the illusion of the decisive Napoleonic victory' or 'the tacticization of strategy' and the creation of a 'crisis in warfighting'.[86]

As Schlieffen's intellectual rival, the often-forgotten Prussian military theorist, Sigismund von Schlichting warned in 1897:

> The teachings of today are based immediately on those of Napoleonic [times] . . . As opposed to this, the means for making war have changed and intensified between 1815 and 1866 as a thousand years previously . . . [requiring a] concept of strategy completely new and different from Clausewitz's [interpretation of Napoleon].[87]

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[86] Crowell, 'The Illusion of the Decisive Napoleonic Victory', pp. 329–46; Handel, *Masters of War*, p. 358; and Antulio J. Echevarria II, *After Clausewitz: German Military Thinkers before the Great War*, pp. 156; 226. See also Hew Strachan, 'From Cabinet War to Total War: The Perspective of Military Doctrine, 1861–1918', in Roger Chickering and Stig Förster (eds), *Great War, Total War: Combat and Mobilization on the Western Front, 1914–1918*, Cambridge University Press, Cambridge, 2000, pp. 26–30; and Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, pp. 59–80.

[87] Quoted in Schneider, *The Structure of Strategic Revolution*, p. 170. For Schlichting's ideas see David J. Hughes, 'Schlichting, Schlieffen, and the Prussian Theory of War in 1914', *Journal of*

Schlichting identified the theoretical dichotomies in continental military thought between the power of technology, the diminishing capacity of tactics and the inflated expectations of battle strategy.

Yet, throughout Europe, military thinkers such as the Russian, Mikhail Dragomirov, Ferdinand Foch in France and Schlieffen in Germany fixed their energies on improving Napoleonic–Moltkean offensive techniques rather than revising them in favour of more defensive ideas. As the French military theorist, Jean Colin, observed in 1912, 'it will still be in Napoleonic warfare that [the soldier] will find the models that should inspire, the subjects that should be meditated and the ideas that should be applied in the twentieth century'.[88]

Schlieffen was the most celebrated of the late 19th-century European soldiers who elevated strategic idealism over tactical and technological realism. His famous 1905 two-front plan against France and Russia sought to avoid firepower attrition on an extended front by emphasising envelopment through a *Gesamtschlacht* (complete battle) in which the structured manipulation of superior numbers and mass could be exploited. While aware of the power of modern military technology, Schlieffen believed in the 'Cannae concept', namely that 'the fundamental conditions of battle have remained unchanged. A battle of annihilation can be carried out today according to the same plan devised by Hannibal in long forgotten times'.[89]

Military History, April 1995, vol. 59, pp. 257–79; and Echevarria, *After Clausewitz*, pp. 154–6.

[88] Jean Colin, *The Transformations of War*, trans. Major L. H. R. Pope-Hennessy, Hugh Rees, Ltd, London, 1912, p. 226.

[89] Alfred von Schlieffen, 'Cannae Studies', in *Alfred von Schlieffen's Military Writings*, trans. and ed. Robert T. Foley, Frank Cass,

Despite revisionist historiography, Liddell Hart's judgment that the Schlieffen Plan represented 'a conception of Napoleonic boldness', but one that could not succeed in industrial-age conditions, remains an accurate description.[90]

It is one of the striking ironies of the continental school of strategy that, despite the visible growth in the destructive power of modern armies, the industrialised states of Europe had become impervious to defeat by Napoleonic military methods. This reality had been the principal lesson to emerge from the American Civil War, but few military intellectuals in Europe saw that struggle as foreshadowing the future of war. It was not Shiloh but Sedan that shaped the continental school of military thought in the late 19th and early 20th centuries. It took the bloodbath of the first three years of World War I to expose how archaic the continental school of strategy had become in comparison with the evolution of mass warfare and military

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London, 2003, pp. 210–11. For the Schlieffen Plan see Gerhard Ritter, *The Schlieffen Plan: Critique of a Myth*, Oswald Wolff, London, 1958; and L. C. F. Turner, 'The Significance of the Schlieffen Plan', in Paul Kennedy (ed.), *The War Plans of the Great Powers, 1880–1914*, Allen & Unwin, Boston, 1979, pp. 199–221.

90 B. H. Liddell Hart foreword in Ritter, *The Schlieffen Plan*, pp. vi–vii. For recent, revisionist scholarship on the Schlieffen Plan see Terence Zuber, 'The Schlieffen Plan Reconsidered', *War in History*, July 1999, vol. 6, no. 3, pp. 262–305; Terence M. Holmes, 'The Reluctant March on Paris: A Reply to Terence Zuber's "The Schlieffen Plan Reconsidered"', *War in History*, April 2001, vol. 8, no. 2, pp. 208–32; and 'Classical Blitzkrieg: The Untimely Modernity of Schlieffen's Cannae Programme', *The Journal of Military History*, July 2003, vol. 67, no. 3, pp. 745–72.

technology. In John Shy's words, 'the Great War shattered many things, and none more than military theory'.[91]

Between 1914 and 1917, the Napoleonic–Moltkean paradigm of the continental school of military thought was consumed by the furnace of modern firepower on the Western Front, leading to millions of casualties at Verdun and the Somme. The British military thinker, J. F. C. Fuller, identified the reason for such carnage when he noted, 'the Germans were copying von Moltke; the French were trying to discover how to copy Napoleon'.[92] It was not until the last year of the Great War that technology and theory began to reconverge dramatically in European armies. A key technical breakthrough was the advent of accurate indirect artillery fire that made possible the simultaneous engagement of targets throughout the two-dimensional area of the battlefield by way of the third dimension: the deep battle.[93]

By 1918, nearly all of the weapons and techniques of 20th-century conventional warfare had either been invented or were in the process of being refined on the Western Front, including indirect artillery fire, tanks, combat aircraft, chemical agents and aerial bombardment. The conceptual implications of these weapons systems were far-reaching and shaped the future of 20th-century conventional war. Military

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91 Shy, 'Jomini', p. 180. For the European interpretation of the American Civil War see Jay Luvaas, *The Military Legacy of the Civil War: The European Inheritance*, University of Chicago Press, Chicago, 1959.

92 J. F. C. Fuller, *The Foundations of the Science of War*, Hutchinson, London, 1926, pp. 25–6.

93 Major General J. B. A. Bailey, *Field Artillery and Firepower*, Naval Institute Press, Annapolis, MD, 2004, p. 16.

historians do not exaggerate when they speak variously of 'the RMA [Revolution in Military Affairs] of the First World War', the advent of a 'combined arms revolution' and 'the birth of the modern style of warfare' occurring on the Western Front. [94]

It is in the German and Allied offensives of 1918 on the Western Front that one can detect the seeds of a transformation in the continental school of military thought away from linear infantry tactics towards all-arms modern operations designed in depth. Military theory, particularly tactical theory, was gradually aligned more closely with rapid advances in technology. By the time of the 1918 Armistice, new indirect artillery methods, armoured vehicles and combat aircraft, in conjunction with modern combined-arms techniques, were beginning to restore vitality and mobility to land warfare.[95] In the inter-war years the technical developments and conceptual legacy of the Great War was to change decisively the character of the continental school of strategy.

The Rise of Operational Theory in Europe

Between 1918 and 1945, the continental school of strategy was further developed in Europe by the newly found unity between

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94 Colin S. Gray, *Strategy for Chaos: Revolutions in Military History and the Evidence of History*, Frank Cass, London, 2002, p. 73; Williamson Murray, 'Thinking about Revolutions in Military Affairs', *Joint Force Quarterly*, Summer 1997, p. 107; Jonathan B. A. Bailey, 'The First World War and the Birth of Modern Warfare', in Macgregor Knox and Williamson Murray (eds), *The Dynamics of Military Revolution, 1300–2050*, Cambridge University Press, Cambridge, 2001, pp. 132–53.

95 For an excellent synthesis of the modern significance of the 1918 fighting, see Gary Sheffield, *Forgotten Victory: The First World War, Myths and Realities*, Review, London, 2002, esp. chapters 5–9.

military technology and military theory. Developments in mechanisation, tactical method and operational technique helped to move the art of European land warfare into the modern industrial age. As the German commander, Erich von Manstein, recalled in 1958, in the inter-war years, land warfare was 'freed from the paralysis of the trenches and the inferno of the pure battle of materiel'.[96]

In terms of military theory, the most important conceptual breakthrough in the continental school of strategy was the formal recognition and refinement of an operational level of war and an operational art. The operational level of war may be defined as the connecting link between strategy and tactics while the operational art is the theory and practice of preparing and conducting operations in order to connect tactical means to strategic ends.[97] The formal recognition of an operational dimension in the school of continental military theory was based on a recognition that strategic victory in war could no longer be achieved by a single battle of annihilation according to the Napoleonic or Moltkean ideal.

As will be seen in the pages that follow, it was the Soviets that truly pioneered the theoretical development of operational military theory in the inter-war period. This is not to deny that the impact of the writings of the British armoured theorists, B. H. Liddell Hart and J. F. C. Fuller, had considerable practical influence in the development of the continental school of

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[96] Quoted in Earl F. Ziemke, 'Annihilation, Attrition, and the Short War', *Parameters: Journal of the US Army War College*, March 1982, vol. XII, no. 1, p. 27.

[97] M. A. Hennessy and B. J. C. McKercher, 'Introduction', in Hennessy and McKercher, *The Operational Art: Developments in the Theories of War*, p. 1.

strategy after 1918. It is only to note that, although both Fuller and Liddell Hart addressed operational issues in their diverse ideas about penetration in mechanised warfare, the science of war and the indirect approach, neither thinker treated the operational level of war as a distinct theoretical entity.

The nearest either thinker came to conceiving the operational level was in the rather vague concept of 'grand tactics'. In short, the theorising of both Fuller and Liddell Hart on war was focused largely on strategy and tactics, and reflected the serious gap existing in the English-speaking military world between the twin poles of 'sweeping strategic surveys and precise tactical commentary'.[98] Moreover, it is interesting to note that, in recent scholarship, Liddell Hart has been claimed not so much as a proponent of operational warfare in the continental tradition, but rather as a Western grand strategist in a liberal, Anglo-American sense.[99]

In Germany the ideas of Fuller and Liddell Hart proved important in the development of a theory of mechanised combined-arms warfare popularly known as *Blitzkrieg*.[100] In the 1920s and 1930s, ideas about mechanised warfare were developed by German military innovators such as Oswald

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98 Brian Holden Reid, 'Fuller and the Operational Level of War', in *idem.*, *Studies in British Military Thought: Debates with Fuller and Liddell Hart*, University of Nebraska Press, Lincoln, NE, 1998, p. 67.

99 Azar Gat, *Fascist and Liberal Visions of War: Fuller, Liddell Hart, Douhet and other Modernists*, Clarendon Press, Oxford, 1998, esp. chapters 3–5.

100 For the British influence on German inter-war military thought see Azar Gat, *British Armour Theory and the Rise of the Panzer Arm: Revising the Revisionists*, Macmillan, London, 2000.

Lutz, Heinz Guderian and Alfred von Vollard-Bockelberg. These thinkers expanded the concept of *operativ* into a methodology of war appropriate for industrial conditions. After World War I, the German approach to *operativ* appears to have evolved to embrace what had previously been seen as the 'lower end of strategy'. In 1920, the German military theorist, Baron Hugo von Freytag-Loringhoven, noted:

> In the German Army . . . the employment of the term *strategisch* (strategical) has fallen more and more into disuse. We replace it . . . by the term *operativ,* 'pertaining to operations' and thereby define more simply and clearly the difference from everything that is referred to as *taktisch* (tactical). All that pertains to operations as such takes place, on the whole, independent of actual combat . . . At any rate, the term 'strategy' ought to be confined to the most important measures of high-command.[101]

Nonetheless, the practical lines of demarcation between tactics, operations and strategy remain difficult to demarcate in German military theory. For many German officers, 'operative decisions' were often seen as a sub-concept of strategy, with the realms of tactics and strategy continuing to dominate discourse on the military art.[102]

In the early years of World War II, such theoretical uncertainties did not prevent skilled commanders such as Manstein, Guderian and Erwin Rommel from exploiting the *Blitzkrieg* approach to war through the use of tanks, aircraft and motorised infantry in unison, or from achieving decisive

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[101] Hugo von Freytag-Loringhoven, *Generalship in the World War*, Historical Section, US Army War College, Washington, DC, 1934, p. 34.

[102] See Hermann Foertsch, *The Art of Modern Warfare*, Oskar Piest, New York, 1940, pp. 19–20.

battle victories in Poland, France and Russia. To many in the West, these victories appeared to be the essence of a new and lightning form of operational warfare. Manstein claimed that the *Wehrmacht* won its early successes 'by dint of operational (grand tactical) mobility'.[103]

Similarly, Guderian summed up the essence of the German military method with an unmistakable operational flourish, 'the manner of [the] engagement is not in prolonged battle, but in short well-timed operations launched by brief orders. The principle of surprise [is essential] in order to avoid or avert enemy defensive action'.[104] In more recent times, General F. M. von Senger und Etterling, commander-in-chief of the North Atlantic Treaty Organisation's (NATO) Central Front, reflected that 'German operational (grand tactical) mobility at the divisional and corps level led not only to the victories of the blitzkriegs but likewise to the German Army's success in keeping the superior Soviet Army off German soil for almost 4 years'.[105]

Yet, because of the manifest shortcomings in German strategy after 1941—that which Jeffrey Record has called 'operational brilliance, strategic incompetence'—there remains an unresolved historical debate as to whether *Blitzkrieg* represented a revolutionary theory of operational warfare, or simply mechanised versions of Cannae based on the traditional

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[103] Erich von Manstein, *Lost Victories*, Henry Regnery Co., Chicago, IL, 1958, p. 279.

[104] Kenneth Macksey, *Guderian: Panzer General*, Macdonald & Jane's, London, 1975, p. 69.

[105] Quoted in Richard Simpkin, *Tank Warfare*, Brassey's, London, 1979, p. 15.

Moltkean–Schlieffen tactical method.[106] Indeed, for many contemporary scholars 'the strategy of *Blitzkrieg*' does not exist.[107] The *Blitzkrieg* method was not the fruit of exhaustive military theoretical consideration, nor was it a carefully structured operational doctrine of war. It was instead a type of short-lived 'operational opportunism' based on a witch's brew of Nazi ideology, hyper-action and a shallow technocratic strategy. If one accepts that the primary purpose of the operational level of war is to orchestrate the conduct of battles and engagements in order to serve a coherent strategic aim, then clearly the German model of operational warfare possessed many theoretical flaws. [108]

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[106] Jeffrey Record, 'Operational Brilliance, Strategic Incompetence: The Military Reformers and the German Model', *Parameters: Journal of the US Army War College*, Autumn 1986, vol. XVI, no. 3, pp. 2–8.

[107] Michael Geyer, 'German Strategy in the Age of Machine Warfare, 1914–45', in Paret, *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, pp. 527–97; Manfred Messerschmidt, 'German Military Effectiveness between 1919 and 1939', in Allan R. Millett and Williamson Murray (eds), *Military Effectiveness*, Volume II: The Interwar Period, Unwin Hyman, Boston, MA, 1988, pp. 218–55; and Manfred Messerschmidt, 'The Political and Strategic Significance of Advances in Armament Technology: Developments in Germany and the "Strategy of *Blitzkrieg*"', in R. Ahmann, A. M. Birke and M. Howard (eds), *The Quest for Stability: Problems of West European Security*, Oxford University Press, Oxford, 1993, pp. 249–64; Azar Gat, 'Ideology, National Policy, Technology and Strategic Doctrine Between the Wars', *The Journal of Strategic Studies*, September 2001, vol. 24, no. 3, pp. 1–18.

[108] Geyer, 'German Strategy in the Age of Machine Warfare', pp. 527–97. For other views on the blitzkrieg debate see Jehuda L. Wallach, *The Dogma of the Battle of Annihilation: The Theories of Clausewitz and Schlieffen and their Impact on the German Conduct of the Two World Wars*, Greenwood Press, Westport, CT, 1986; James

The controversy over the strategic–operational dimensions of *Blitzkrieg*, however, need not detain us. It is only necessary to note that, in the context of the development of the school of continental strategy, the German military achievement was to restore mobility and strategic decision to the encounter battle. Between 1939 and 1941, the Germans achieved swift, Napoleonic-style decisive battlefield victories in a manner not seen since the days of the Elder Moltke.[109] As the French historian and Resistance fighter, Marc Bloch, noted in his haunting memoir of France's fall in 1940, *Strange Defeat*, under the military impact of the Germans, the whole rhythm of war seemed to have changed its tempo.[110]

In contrast to the debate over the strategic–operational features of the German *Blitzkrieg*, the development of the post-1917 Soviet school of operational warfare (*operativnyi*) has been called 'the most creative theoretical adventure in the military history of the twentieth century'.[111] In terms of the art of war in

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S. Corum, *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform*, University Press of Kansas, Lawrence, KS, 1992, chapters 1–3, 6 and 8; J. P. Harris, 'The Myth of Blitzkrieg', *War in History*, 1995, vol. 2, no. 3, pp. 335–52; and Robert M. Citino, *The Path to Blitzkrieg: Doctrine and Training in the German Army, 1920–1939*, Lynne Rienner Publishers, Boulder, CO, 1999.

109 Robert M. Citino, *Quest for Decisive Victory: From Stalemate to Blitzkrieg in Europe, 1899–1940*, University Press of Kansas, Lawrence, KS, 2002, ch. 6 and *Blitzkrieg to Desert Storm: The Evolution of Operational Warfare*, University Press of Kansas, Lawrence, KS, 2004, chapters 1–2.

110 Marc Bloch, *Strange Defeat: A Statement of Evidence Written in 1940*, trans. from the French by Gerard Hopkins, W. W. Norton & Company, New York, 1968, p. 42.

111 Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, p. xvii.

industrial conditions, the development of *operativnyi* in the Soviet Union represented the most significant advance in the evolution of continental strategy since the Napoleonic wars.

A group of outstanding Soviet military theorists—including M. N. Tukhachevsky, Alexsandr Svechin, N. E. Varfolomeev, G. S. Isserson and V. K. Triandaffilov—codified the theoretical basis for the development of the operational level of war and for the concept of the operational art, both of which sought to redefine the purpose of battle in industrial conditions.[112] What united these theorists was a common belief in what one scholar has called 'the demise of the decisive general engagement'.[113]

Drawing on the lessons of World War I, the Soviet thinkers argued that armed conflict was characterised by an age of mass armies on extended fronts supported by a concentrated strategic rear. In such conditions, it was impossible for any single commander to wage war based on decisive battles

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[112] See especially A. A. Svechin, *Strategy*, ed. Kent Lee, East View Publications, Minneapolis, MN, 1992; V. K. Triandafillov, *The Nature of the Operations of Modern Armies*, trans. William A. Burhans, Frank Cass, Ilford, Essex, 1994; James J. Schneider, 'V. K. Triandafillov: Military Theorist', *Journal of Soviet Military Studies*, September 1988, vol. 1, no. 3, pp. 287–306 and *The Structure of Scientific Revolution*, chapters 3–5; Jacob W. Kipp, 'Soviet Military Doctrine and the Origins of Operational Art, 1917–1936', in Willard C. Frank and Philip S. Gillette (eds), *Soviet Military Doctrine from Lenin to Gorbachev, 1915–1991*, Greenwood Press, Westport, CT, 1992, pp. 85–131; and David M. Glantz, 'The Intellectual Dimension of Soviet (Russian) Operational Art', in McKercher and Hennessy, *The Operational Art: Developments in the Theories of War*, pp. 125–46.

[113] Harrison, *The Russian Way of War: Operational Art, 1904–40*, p. 153.

according to the Napoleonic paradigm of land warfare. Echoing Schlichting, Tukhachevsky observed in 1926:

> The nature of modern weapons and modern battle is such that it is impossible to destroy the enemy's manpower by one blow in a one-day battle. Battle in modern operations stretches out into a series of battles not only along the front but also in depth . . . In that regard, modern tactics of a theatre are made tremendously more complex than those of Napoleon.[114]

On modern extended fronts, a succession of systematic blows, or successive operations, were required to control a battlefield in time, space and scale, and to link all tactical actions to a strategic objective. Thus Alexsandr Svechin, probably the greatest of the inter-war Soviet military theorists, argued that, in industrial conditions, the dual dimensions of tactics and strategy had to be intellectually connected by an 'intermediate member'—or operational level of war. Only at the operational level could combat actions be forged into an ensemble and so provide the creative tactical material for extensive operations united by strategy.[115]

In 1926, Svechin coined the term 'the operational art' to define a new relationship between tactics, operations and strategy. Using the famous metaphor of 'tactical steps, operational leap and strategic way', Svechin defined operational art as a totality of battles united by strategic concept. He wrote:

> Strategy . . . is not only interested in stating the goal of an operation but also makes certain requirements of the methods of achieving it. All branches of the art of war are closely

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[114] Quoted in Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, p. 10.

[115] Svechin, *Strategy*, p. 69.

> interrelated: *tactics takes the steps that make up an operational leap, and strategy points the way*.[116]

In 1928, Svechin's colleague, N. E. Varfolomeev, argued that the future of war lay in studying the grouping of battles, not the activity of a single, climactic battle. What mattered was the integration of successive and distributed operations over a wide front. Varfolomeev neatly summarised the linkage between the three levels of war: 'Battle then, is the means of the operation. Tactics are the material of operational art. The operation is the means of strategy, and the operational art is the material of strategy'.[117] For his part, G. S. Isserson wrote, 'we are at the dawn of a new epoch in military art, and must move from a linear to deep strategy'.[118]

From the notion of an operational perspective of land warfare, V. K. Triandafillov subsequently developed the framework for deep strategy, in which successive operations would be employed to transform a series of tactical battles into operational break-outs using shock and manoeuvre.[119] The deep operation became the key to linking sequential tactical actions under a unified campaign plan designed to achieve strategic success and

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[116] *Ibid*., p. 269. Emphasis added.

[117] Quoted in Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, p. 182.

[118] Quoted in Harrison, *The Russian Way of War: Operational Art, 1904–40*, pp. 204–5.

[119] Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, p. 191; Schneider, *The Structure of Strategic Revolution*, pp. 188–9; and Bruce W. Menning, 'The Deep Strike in Russian and Soviet Military Theory', *The Journal of Soviet Military Studies*, April 1988, vol. 1, no. 1, pp. 9–28.

was, in the words of Azar Gat, 'the most advanced and comprehensive operational doctrine developed in the 1930s'.[120]

Between 1943 and 1945, Soviet deep operations involving multi-front actions were implemented in large-scale mechanised and combined-arms operations that have no equal in scope or intensity in the history of conventional warfare. On the Eastern Front in World War II, in a titanic clash, the Soviet military battered the German *Wehrmacht* into defeat by employing an operational model of warfare based on tank armies, mobile corps and cavalry-mechanised forces.[121]

After 1945, the eclipse of Germany and France as great military powers saw the mantle of leadership of the continental school of strategy pass permanently to the two rival superpowers, the Soviet Union and the United States, whose armies confronted each other across a divided Europe. During the long Cold War era, the conventional military imperative in Soviet–American rivalry was often obscured, at least in the West, by an emphasis on deterrence theory and nuclear weapons. Nonetheless, the Soviet model of operational warfare continued to evolve under such figures as Nikolai Ogarkov and Makhmut Gareev. Indeed, before the collapse of communism in Europe, Soviet operational thought had anticipated the emergence of a 'Military Technical Revolution' in conventional warfare. In the 1970s, concepts such as the Operational

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120 Gat, 'Ideology, National Policy, Technology and Strategic Doctrine Between the World Wars', p. 6.

121 See Lieutenant Colonel Paul Tiberi, 'German versus Soviet Blitzkrieg', *Military Review*, September 1985, vol. LXV, no. 9, pp. 63–71; and David M. Glantz, 'Developing Offensive Success: The Soviet Conduct of Operational Maneuver', in Frank and Gillette, *Soviet Military Doctrine from Lenin to Gorbachev*, ch. 5.

Manoeuvre Group and what the Soviet General Staff called the reconnaissance–fire complex for deep strike and manoeuvre warfare were designed to try to align military theory with rapid technological innovation in electronics and computing. [122]

Meanwhile, a permanent American military presence in Europe reinforced what has been called the 'continental *Weltanschauung*' in US strategy.[123] Despite its maritime predominance and global power, the American way of war in the second half of the 20th century was essentially continentalist and Eurocentric in character. Ultimately such a legacy forced the United States to adopt an operational model of warfare on the continental European pattern, something long regarded as being alien to the Anglo-American military tradition. In order to understand how the operational component in continental strategy was passed on to the United States military establishment, it is necessary to undertake a brief excursion on the American approach to war.

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[122] See M. C. Fitzgerald, 'Marshal Ogarkov and the New Revolution in Soviet Military Affairs', *Defense Analysis*, March 1987, vol. 3, no. 1, pp. 3–20 and *The New Revolution in Russian Military Affairs*, Royal United Services Insitute for Defence Studies, London, 1994, pp. 7–20; Jacob W. Kipp. 'Russian Military Forecasting and the Revolution in Military Affairs: A Case of Oracle of Delphi or Cassandra?', *Journal of Slavic Military Studies*, March 1996, vol. 9, no. 1, pp. 1–45. See also David M. Glantz, *Soviet Military Operational Art: In Pursuit of Deep Battle*, Frank Cass, London, 1991, pp. 254–6.

[123] Colin S. Gray, 'Strategy in the Nuclear Age: The United States, 1945–1991', in Murray, Knox and Bernstein, *The Making of Strategy: Rulers, States and War*, pp. 594–5.

The Influence of the Continental School of Strategy on the American Way of War

In March 1991, when discussing the '100-hour' ground campaign against Iraq in the first Gulf War, the American commander of Coalition forces, General Norman Schwarzkopf, spoke in terms that recalled Graf von Schlieffen. Commenting on the campaign, Schwarzkopf declared that, on the third day of fighting, '[the ground war] was literally about to become a battle of Cannae, a battle of annihilation'.[124] Schwarzkopf's statement was an emphatic example of the influence of the continental school of strategy on two centuries of American military theory.

In the first half of the 19th century, the American approach to war strongly reflected the Napoleonic traditions of the continental school of arms. Such influential figures as Winfield Scott, Dennis Hart Mahan and Henry Wager Halleck institutionalised the study of Jomini among American officers. Moreover, through the campaigns of Robert E. Lee and Ulysses S. Grant in the Civil War of the 1860s, Americans inherited the traditions and memories of a great, European-style conflict on their own soil.[125] As a result, in its engagement in both world wars in Europe, the US Army pursued 'a strategy of power' based on annihilating enemy armies through the application of superior firepower, numbers

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[124] General Norman Schwarzkopf interviewed in the *New York Times*, 28 March 1991.

[125] For the influence of the continental school of strategy in American military thought see Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy*, Indiana University Press, Bloomington, IN, 1973, esp. chapters 4–7.

and logistics—the methods that Grant and the Union armies had used to destroy Lee and the Confederacy.[126]

In the American interpretation of large-scale warfare, operational manoeuvre was less important than tactical mass. Such an approach was captured in the 1939 edition of the US Army's keystone manual FM 100-5, which stated: 'the *ultimate objective* of all military operations is the destruction of the enemy's armed forces in battle. Decisive defeat breaks the enemy's will to war and forces him to sue for peace which is the national aim'.[127] Despite the operational style of flamboyant individual commanders such as George S. Patton Jr and Douglas A. MacArthur in World War II, it is no exaggeration to argue that the institutional warfighting culture of the US Army favoured strategy and tactics. Indeed, until the late 20th century, a resolute 'strategy–tactics' dualism in the US way of war deprecated both German *operativ* and Soviet operational art.

In 1961, reflecting on Soviet operational methods, the American military scholar, Walter Darnell Jacobs, noted that military thought in English-speaking countries largely excluded the operational art as a theoretical concept in war.[128] He went on to observe:

> The Soviet concept of the operational art is not a fundamental or significant contribution to military science. The traditional division into tactics and strategy seems to fit the needs of modern

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[126] Russell F. Weigley, *Eisenhower's Lieutenants: The Campaigns of France and Germany, 1944–1945*, Sidgwick & Jackson, London, 1981, pp. 2–7.

[127] *Ibid.*, p. 4. Emphasis in original.

[128] Walter Darnell Jacobs, 'The Art of Operations', *Army*, November 1961, vol. 12, no. 4, p. 60.

> warfare. The introduction of the idea of a mid-range of operations—somewhere between tactics and strategy—does not, in itself, enhance originality in solving military problems.[129]

Jacobs rejected the 'ritualistic scientism' of the Russians, arguing that the concept of the operational art was not an aid but a complicating device in understanding military strategy.[130]

The views expressed by Jacobs were widely held within the US military establishment in the 1950s and 1960s. Almost twenty years after Jacobs wrote, the English-speaking military world's antipathy towards an operational approach to warfare was noted again by Edward N. Luttwak.[131] He argued that the American approach to war was tactical and logistical rather than operational. In 1981 Luttwak observed: 'it is a peculiarity of Anglo-Saxon military terminology that it . . . includes no adequate term for the *operational* level of warfare—precisely the level that is most salient in the modern tradition of military thought in continental Europe'.[132]

This antipathy to operational theory only began to change in US thinking because of three factors that coalesced in the course of the 1970s. The first was American defeat in Vietnam. The second factor was the rapid emergence of the conventional electronic battlefield that challenged long-held American perceptions of warfare. Finally, there was a re-emphasis on US military operations in Cold War Europe following a quarter

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129 *Ibid.*, p. 64.

130 *Ibid.*

131 Edward N. Luttwak, 'The American Style of Warfare and the Military Balance', *Survival*, March–April 1979, XXI, vol. 2, pp. 57–8.

132 Edward N. Luttwak, 'The Operational Level of War', *International Security*, Winter 1980–81, vol. 5, no. 3, p. 61. Emphasis in original.

of a century in which the focus had been on limited war and counterinsurgency in Asian conflicts.[133]

The possibility of having to fight advanced, Soviet-led Warsaw Pact armies in Europe concentrated American military thinking on developments in continental strategy since 1945, particularly the Soviet model of operational warfare. In the reform of the US Army in the 1970s and 1980s, two of the key figures were Generals William E. DePuy and Donn A. Starry. Both men believed that an obsession with the 'tacticisation of strategy', firepower attrition and 'body count' statistics had contributed to the strategic defeat of the US military in Vietnam. They sought to introduce an operational focus to American military theory in which tactics and operations would serve the aims of strategy. As DePuy put it, 'operations plans should, in the best of all possible worlds, pursue military objectives which coincide with strategic goals'.[134] In this way, the American military discovered the art of strategy as a sequence of *ends* (objectives); *ways* (concepts) and *means* (resources).

In his reflections on American military thought, Starry emphasised the need to move the US Army from a belief in tactical annihilation, mass force and industrial power to a more sophisticated, deft and precise approach based on operational

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[133] See John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973–1982*, US Army Training and Doctrine Command, Fort Monroe, VA, June 1984; and Roger J. Spiller, 'In the Shadow of the Dragon: Doctrine and the US Army after Vietnam', *RUSI Journal*, December 1997, vol. 142, no. 6, pp. 41–54.

[134] General William E. DePuy, 'Vietnam: What We Might Have Done and Why We Didn't Do it', *Army*, February 1986, vol. 36, no. 2, p. 23.

art.[135] He noted that the idea of operational-level warfare was dramatically at odds with the American military's Napoleonic tradition, recalling:

> We have long been—and are yet—children of our Napoleonic heritage—some from Jomini, some from Clausewitz, some homegrown, based on our own unique military experiences. [*sic*] This has led to a military system and concepts embracing a mass conscript military force in time of emergency, a force whose primary operational modus has been the destruction of the enemy armed forces, largely by overwhelming numbers. With few notable exceptions, our principal military leaders have been men steeped in that tradition.[136]

Between 1976 and 1986, the US Army gradually began a transition away from a linear, attrition doctrine grounded in World War II ideas towards an approach that emphasised the reality of a deep, and increasingly electronic, battlefield. American operational concepts evolved through the Integrated Battle, the Extended Battle and finally the AirLand Battle. Common to these endeavours was an attempt to synchronise firepower with manoeuvre and to view the deep, close and rear battles as inseparable and complementary elements of modern combat. The formulation of AirLand Battle in 1982 and the formal adoption of the operational art in 1986 by the US Army signified American

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[135] General Donn A. Starry, 'The Principles of War', *Military Review*, September 1981, vol. XLI, no. 9, pp. 2–12 and 'A Perspective on American Military Thought', *Military Review*, July 1989, vol. LXIX, no. 7, pp. 2–11.

[136] Starry, 'A Perspective on American Military Thought', p. 10.

military acceptance of the main principles of operational warfare drawn from the continental school of strategy.[137]

The operational art became central to American military theory. In 1988, William S. Lind summed up its meaning:

> The operational art is the art of using tactical events—battles and refusals to give battle—to strike directly at an enemy's center of gravity. In other words, it is the art of deciding when and where to fight battles, and when and where not to, on a strategic basis. It includes the idea that a goal is to win strategically with the fewest possible battles.[138]

This philosophical change was reflected throughout American military literature. For instance, in 1991, Clayton R. Newell, in sharp contrast to the views of Jacobs thirty years earlier, expressed a new orthodoxy when he wrote that an operational perspective of war was perhaps the most critical area for American soldiers to understand. The operational level represented 'the essential link between the desired new order seen from the strategic perspective and the chaos of war seen from the tactical perspective of war'.[139]

In this way, between the end of the Vietnam War in the early 1970s and the Gulf War of the early 1990s, the US military attempted to transform its approach to warfighting. The US Army sought to move away from its heritage of linear, mass-

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[137] A. J. Bacevich, 'Prospects for Military Reform', *Parameters: Journal of the US Army War College*, Spring 1987, vol. XVII, no. 1, pp. 33–9.

[138] William S. Lind, 'The Operational Art', *Marine Corps Gazette*, April 1998, pp. 45–7.

[139] Clayton R. Newell, *The Framework of Operational Warfare*, Routledge, London, 1991, p. 10.

industrialised warfare emphasising attrition towards a manoeuvre-oriented operational approach based on modern ideas of depth, disruption and simultaneous attack.[140] The conceptual revolution in American military theory had far-reaching consequences on the Anglo-American approach to war.

Because American military theory predominated in the West, by the end of the 20th century, an operational-level model of warfare had spread to other English-speaking armies such as those of Britain and Australia.[141] Moreover, during the 1990s, following the Soviet Union's collapse as a military superpower, the United States became the true heir of continental military thought, both in theory and practice. Theoretically, American interpretations of what were originally

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[140] For excellent treatment see Richard M. Swain, 'Filling the Void: The Operational Art and the US Army', in McKercher and Hennessy, *The Operational Art: Developments in the Theories of War*, pp. 147–72; Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, chapters 7–8; Lieutenant Colonel L. D. Holder, 'A New Day for the Operational Art', *Army*, March 1985, vol. 35, no. 3, pp. 22–32; and Clayton R. Newell and Michael D. Krause (eds), *On Operational Art*, Center for Military History, United States Army, Washington, DC, 1994.

[141] For the British experience see Richard Simpkin, *Race to the Swift: Thoughts on Twenty-First Century Warfare*, Brassey's Defence Publishers, London, 1985; Major General J. J. G. Mackenzie and Brian Holden Reid (eds), *The British Army and the Operational Level of War*, Triservice Press, London, 1989; and Brian Holden Reid, *A Doctrinal Perspective, 1988–98*, Strategic and Combat Studies Institute, The Occasional No. 33, Camberley, Surrey, May 1998. For the Australian experience, see Michael Evans, *Forward from the Past: The Development of Australian Army Doctrine, 1972–Present*, Study Paper No. 303, Land Warfare Studies Centre, Canberra, August 1999.

European ideas of war increasingly dominated the world's professional military journals. In terms of military practice, even as the Soviet war machine dissipated, the American military executed a coalition operational campaign in the Persian Gulf that was originally designed for the European Central Front.

It has been noted that, when the US-led Coalition faced the Iraqis in the 1991 Gulf War, the short war that ensued represented a stark clash between new and old military traditions. A new, increasingly information-dominated American operational model of war confronted an older industrial-style tactical model of Iraqi fighting that could be traced back to Napoleon.[142] Yet, despite these differences, there was also much similarity between the two approaches to war in the sense that both clearly originated in the continental school of strategy.

After almost two hundred years of development, land warfare in the modern European tradition had progressed from the Napoleonic paradigm based on the duality of strategy and tactics towards a modern tripartite model of war based on the fusion of strategy, operations and tactics. Over the space of two centuries, it has been the military theoretical dimension of the continental school of strategy that has provided modern land warfare with its intrinsic dimension—its intellectual autonomy, its corporate knowledge and a professional self-contained lexicon. From single-point, linear warfare through extended-line, distributed operational strategy to the complexities of the operational art, the evolution of continental

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[142] Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, pp. 323–31.

military theory has faced the constant test of interpreting changing technological conditions to improve performance on the battlefield. The mediation between *theoria* and *praxis* in military affairs through the power of technology remains an enduring feature of war.

Thus, in the 1990s, even as operational art—the most significant theoretical contribution of the continental school of military thought to 20th-century warfare—entered the mainstream of leading Western armies, the professional heritage of land power faced a new challenge from the impact of the global information revolution. This challenge has created debate about what is arguably the centrepiece of continental military theory: the levels of war—that reciprocal relationship that exists between tactics, operations and strategy.

From Battlefield to Battlespace: The Information Revolution and the School of Continental Strategy

Perhaps the central characteristic of the continental school of strategy has been its codification of war into three differentiated levels of tactics, operations and strategy. Until the industrial revolution of the 19th century, the dualism of tactics and strategy dominated the intellectual study of land warfare. As seen in the 19th century, the industrialisation of warfare created a crisis in military theory that was not resolved until after World War I through the development of an intermediate operational level of war connecting tactical means to strategic ends.

By the late 20th century, the theory and practice of the operational art became part of the curricula of many of the world's leading armies and symbolised the acme of

warfighting skill. The levels of war in general, and the key role of the operational art in particular, came to serve as a mental map for waging modern military conflict. Yet even as the operational level of war was successfully imported from the continental military tradition of Germany and the Soviet Union into Anglo-American military culture, the codification of war into three composite levels came under challenge from the emergence of new information technologies.

Information Technology and the Rise of the Battlespace

The swiftness of the First Gulf War of 1991 played an important role in the perception that a 'Revolution in Military Affairs' (RMA) based on information technologies possessed the potential to transform the character of warfare. In information systems, the microchip and bandwidth emerged to become the technological keys to new warfighting doctrine in much the same way as combustion engines and radio were the facilitators of new techniques of industrial warfare.

In the First Gulf War, three types of technologies emerged that appeared to take the conduct of war into a post-industrial phase: command-and-control technologies based on computers, satellites and sensors that dramatically improved intelligence, surveillance, target acquisition and reconnaissance (ISTAR) methodologies; long-range precision guided munitions for stand-off strike; and stealth, or low-observable, platforms.[143] Collectively, these technologies appear to create

[143] The literature on the information-based RMA is vast. Useful overviews include Ryan Henry and C. Edward Peartree (eds), *The Information Revolution and International Security*, CSIS Press, Washington DC, 1998; Zalmay M. Khalizad and John P. White (eds), *The Changing Role of Information in Warfare*, RAND, Santa

an unprecedented compression of time and space in military operations that challenge the integrity of the differentiated levels of war as pillars of modern military theory. What one writer has called 'fighting by minutes' may be an exaggeration, but it conveys the flavour of much thinking about the emerging contours of early 21st-century land warfare.[144]

In the course of the 1990s, as a result of new information technologies, the notion of a nonlinear battlespace began to replace the older idea of a linear battlefield that had so firmly defined set-piece armed conflict in the Western military tradition since the time of Alexander the Great. In 1993, the United States Army defined a battlespace as 'a physical volume that expands or contracts in relation to the ability to acquire and engage the enemy. It includes the *breadth, depth and height* in which the commander positions and moves his [military] assets over time'.[145] More recently, in 2001, American doctrine has

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Monica, CA, 1999; Thierry Gongora and Harald von Riekoff (eds), *Towards a Revolution in Military Affairs? Defense and Security at the Dawn of the Twenty-first Century*, Greenwood Press, Westport, CT, 2000; Steven Metz, *Armed Conflict in the 21st Century: The Information Revolution and Post-Modern Warfare*, Strategic Studies Institute, US Army War College, Carlisle, PA, 2000; and Michael O'Hanlon, *Technological Change and the Future of War*, Brookings Institution Press, Washington, DC, 2000, esp. ch. 2.

144 Robert R. Leonhard, *Fighting by Minutes: Time and the Art of War*, Praeger, Westport, CT, 1994.

145 United States Army, FM 100-5, *Operations*, Government Publishing Office, Washington, DC, June 1993, p. 6–12. Emphasis added. See also Lieutenant General Paul E. Funk, 'Battle Space: A Commander's Tool on the Future Battlefield', *Military Review*, December 1993, vol. 73, no. 12, pp. 36–47; and General Frederick M. Franks, 'Full-Dimensional Operations: A Doctrine for an Era of Change', *Military Review*, December 1993, vol. 73, no. 12, pp. 5–10.

described a battlespace as an essentially conceptual and nonlinear phenomenon that must be determined by commanders 'as current operations transition to future operations'.[146]

The conceptual significance of the emergence of a battlespace has been that its development makes simultaneous attack possible throughout a theatre of operations. The notion of a simultaneous employment of combat power throughout a battlespace represents an approach to warfighting that exploits 'sensors to shooters'—that is, the electronic, or digital, linking of surveillance techniques with weapons systems. Digitisation promises to permit shared situational awareness (knowledge of the enemy) and the synchronisation of combat power to be exploited throughout the depth, breadth and height of a theatre of operations.[147] In 1995, General Gordon A. Sullivan, the Chief of Staff of the US Army, declared that the arrival of simultaneity had become 'the defining characteristic of war . . . in the Information Age'.[148] In advanced armies, cruise missiles, theatre missiles, attack helicopters, aircraft, rockets and unmanned aerial vehicles (UAV) were increasingly viewed as

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[146] United States Army, FM 3-0, *Operations*, Department of the Army, Washington DC, June 2001, pp. 4-20 – 4-21.

[147] See John L. Romjue, *American Army Doctrine for the Post-Cold War*, Military History Office, United States Army Training and Doctrine Command, Fort Monroe, VA, 1997, ch. 5.

[148] General Gordon R. Sullivan and Lieutenant Colonel Anthony M. Coroalles, *The Army in the Information Age*, Strategic Studies Institute, US Army War College, Carlisle Barracks, PA, March 1995, p. 12. See also two companion pieces, General Gordon R. Sullivan and Lieutenant Colonel James M. Dubik, *Land Warfare in the Information Age*, Strategic Studies Institute, US Army War College, Carlisle Barracks, PA, February 1993; and *War in the Information Age*, Strategic Studies Institute, US Army War College, Carlisle, PA, June 1994.

weapons systems that would facilitate operations based on multidimensional simultaneity.

As a result of these developments, new concepts of military force based on full-dimensional attack have been developed by leading Western militaries, particularly the United States. Full-dimensional operations are based on the ability of advanced Western forces to see and to strike with simultaneous or parallel force throughout an expanding battlespace and promise to transform the conduct of many aspects of land warfare over the next two decades. In particular, full-dimensional operations have decisively altered the 20th-century framework of deep, close and rear operations—a framework evident in German, Soviet and eventually American thinking about land warfare from the inter-war period to the latter years of the Cold War.

Prior to the information revolution, deep, close and rear operations could be seen in European, industrial-age battlefield terms as sequences. Even during the last decade of the Cold War era, the modern European battlefield was rigidly structured, with NATO forces adopting a linear defence specifically designed for close, deep and rear battle. Such an approach was evident in the idea of a 'sword and shield', defence-and-attack mode of armoured warfare in which such constructs as NATO's forward edge of the battlefield (FEBA) and forward line of troops (FLOT) predominated.

Battlefield structure during the Cold War reflected a belief that the deep battle was the facilitator of the decisive close battle. In contrast, during the post–Cold War era, new long-range strike technologies have compressed close, deep and rear operations, permitting advanced military forces to attack an enemy in great depth. As a result, in the new millennium, the

deep battle has increasingly been viewed as the potentially decisive action in combat operations. In a volumetric battlespace, sequential battles against predictably advancing echelons of the enemy are giving way to the simultaneous engagement of targets throughout an entire battlespace in order to maximise shock and disruption against an adversary.

The conceptual differences between actions on a sequenced battlefield and actions in a simultaneous battlespace may be described as follows: in the 20th century, the challenge in ground warfare was to convert a succession of tactical attacks into an operational breakthrough. In the 21st century, the challenge is to make tactical and operational breakthroughs simultaneously strategic by attacking enemy vulnerabilities with three-dimensional fire.[149] In the words of the British military theorist, Jonathan Bailey,

> Just as indirect fire dominated warfare of the twentieth century, which ended with the predominance of the deep battle over the close, so the early twenty-first century will see the development of new systems to engage targets directly 'above' in the third dimension, and with many sources of fire simultaneously throughout [the] battlespace.[150]

In the early 21st century, the adoption of precise systems promises to transform land warfare as profoundly as indirect fire did in the early 20th century. Advances in digitisation will permit seamless engagement of targets over an ever-increasing battlespace. It is possible that, in the first quarter of the 21st century, because of pervasive information networks and

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[149] Jonathan Bailey, *The First World War and the Birth of the Modern Style of Warfare*, Strategic and Combat Studies Institute, Occasional Paper No. 22, Camberley, 1996, p. 31.

[150] Bailey, *Field Artillery and Firepower*, p. 17.

precision munitions, many future conventional military operations may become characterised by simultaneous strike warfare using joint forces. The implications of joint warfare for the exercise of land power are explored in detail later on in this monograph. At this point, however, it is only necessary to note that a form of joint and simultaneous *coup de main* may emerge to replace the series of discrete engagements and battles that constituted operations for most of the 20th century.

In terms of military theory, the significance of the emergence of battlespace simultaneity in 21st-century warfare is that an ability to strike at any time and anywhere may blur, or even eliminate, traditional distinctions between the tactical, operational and strategic levels of war. An important question raised by simultaneous warfare is whether the general conceptual framework of land warfare drawn from the school of continental strategy—at least in terms of the levels of war and the future of the operational art—remains relevant in the new millennium.

The Debate over the Levels of War

American military theorists such as Douglas A. Macgregor, David Jablonsky and Antulio Echevarria have argued that the rise of the extended battlespace means that the levels of war may eventually disappear from the world's military lexicon. According to these theorists, the framework of the levels of war will become at best little more than a checklist of labels or, at worst, abstractions in the conduct of war.[151]

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[151] Douglas A. Macgregor, 'Future Battle: The Merging Levels of War', *Parameters: US Army War College Quarterly*, Winter 1992–93, vol. 22, no. 4, pp. 33–47; David Jablonsky, *The Owl of Minerva Flies At Twilight: Doctrinal Change and Continuity and the Revolution in*

Using the First Gulf War of 1991 as a template, Macgregor has argued that precision deep-strike munitions, long-range aircraft and advanced target acquisition by the use of global positioning systems (GPS) now allows a theatre commander to influence battle action directly. Through information and precision technologies, a theatre commander can direct military resources to points in time and space that are critical to a campaign's success. As a result, the categories of American capabilities employed against Iraq in 1991 in terms of their strategic, operational or tactical points of origin were largely indistinguishable. The Coalition was able to strike simultaneously across all three levels of war with capabilities that were previously considered to be mainly strategic in character.[152]

Macgregor predicted that, in the 21st century, American forces would possess an increasing suite of capabilities to place an enemy under global attack and subject any adversary to a new form of 'multidimensional envelopment'.[153] Mass strikes with precision weapons using advanced targeting systems would have the potential to destroy an enemy and to compress the close, deep and rear battles into one continuous strike.[154] Moreover, in conditions of simultaneous warfare, there was a

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Military Affairs, Strategic Studies Institute, US Army War College, Carlisle Barracks, PA, April 1994 and 'US Military Doctrine and the Revolution in Military Affairs', *Parameters: US Army War College Quarterly*, Autumn 1994, vol. 24, no. 3, pp. 18–36; and Antulio J. Echevarria II, 'Dynamic Inter-Dimensionality: A Revolution in Military Theory', pp. 30–6 and *Rapid Decisive Operations: An Assumptions-based Critique*, Strategic Studies Institute, US Army War College, Carlisle Barracks, PA, November 2001.

[152] Macgregor, 'Future Battle: The Merging Levels of War', pp. 38–9.

[153] *Ibid*., p. 39.

[154] *Ibid*., pp. 40–1.

strong possibility that decisive strategic results would emerge from tactical actions, so eroding the autonomy of the operational level of war. The ability to command large, globally arrayed forces and to bring them to bear simultaneously against widespread enemy targets in one theatre of war 'will become the new and indispensable trademark of modern warfare'.[155]

For Macgregor, the consequences of continuous and simultaneous strike operations were revolutionary in terms of the way in which warfare was traditionally conceptualised:

> This form of [simultaneous] warfare collapses the three levels of war, so to speak, by enlisting the tactics of fire and movement directly in behalf [*sic*] of the strategic goal. The new structure of warfare integrates and synchronises redundant, multiservice warfighting systems in simultaneous attacks on the enemy throughout his entire depth and in the space above him as well. All of this means that in future conflict the three levels of war, as separate and distinct loci of command and functional responsibilities, will be spaced and timed out of existence.[156]

David Jablonsky echoed many of Macgregor's views concerning the impact of simultaneity and the diminishing relevance of the levels of war. In particular, Jablonsky was sceptical over the survival of the operational level of war as a discrete activity. He argued that operational authority would decrease because technology increasingly gave strategic-level commanders greatly improved central control over tactical field units.[157] Jablonsky predicted that the ability to communicate and receive real-time guidance directly from the

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[155] *Ibid.*, p. 44.
[156] *Ibid*., p. 41–2.
[157] Jablonsky, *The Owl of Minerva Flies at Twilight*, pp. 25–32.

strategic level would gradually transform command-and-control structures in favour of a renewal of the direct link between the strategic and tactical levels of war.[158]

Jablonsky's work seemed to foreshadow a return to the strategy–tactics dualism that had ruled the art of war on land until the coming of the industrial revolution. Strategic commanders might become omniscient 'electronic Napoleons', exercising tactical command via computer screen and video link. Jablonsky noted that, 'with time compressed over extended space and with that immense space rendered comprehensible by a technological *coup d'oeil*, an entire theatre can become a simultaneous battlefield where events, as in the days of Napoleon, may determine national destinies'.[159] As the importance of the three levels of war apparently diminish, operational commanders might risk becoming mere facilitators rather than decision makers.[160]

Complementing the studies of Macgregor and Jablonsky has been the work of Antulio Echevarria. Arguing that the levels of war are little more than 'arbitrary categories', Echevarria has advocated the adoption of a new concept of war called interdependent manoeuvre. The latter concept is based on an attempt to exploit information-age technologies in order to apply fire and movement across the three levels of war simultaneously.[161] 'Interdependent maneuver', Echevarria

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158 Jablonsky, 'US Military Doctrine and the Revolution in Military Affairs', p. 28.

159 Jablonsky, *The Owl of Minerva*, p. 65.

160 Jablonsky, 'US Military Doctrine and the Revolution in Military Affairs', pp. 24–8.

161 Echevarria, *Rapid Decisive Operations: An Assumptions-based Critique*, pp. 13–14.

states, 'would . . . exploit the fact that the tactical, operational, and strategic levels of war can be seen as a single continuum of military activity'.[162]

In the context of interdependent manoeuvre, 21st-century military theory is best served by visualising warfare as an open and nonlinear—rather than a closed, linear—system of military actions, linked together in space and time by a growing variety of information systems.[163] Military action has two parts: *fire* (the ability to inflict lethality) and *movement* (the physical means to deliver that lethality). Interdependent manoeuvre would bring the synergy of fire and movement to what traditionally have been known as the operational and strategic levels of war.[164]

Not all American military theorists agree that information technology will render the levels of war irrelevant in future armed conflict. Significantly, two American theorists with European experience, Generals Wesley K. Clark and Montgomery C. Meigs, have viewed the levels of war as retaining their importance.[165] Clark, the NATO commander who prosecuted the 1999 air war against Serbia over Kosovo, has suggested that events in modern war should now be

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[162] *Ibid.*, p. 15.

[163] Echevarria, 'Dynamic Inter-Dimensionality: A Revolution in Military Theory', pp. 32–6.

[164] Echevarria, *Rapid Decisive Operations: An Assumptions-based Critique*, p. 15.

[165] General Wesley K. Clark, *Waging Modern War: Bosnia, Kosovo and the Future of Combat*, Public Affairs, New York, 2001; and Montgomery C. Meigs, 'Operational Art in the New Century', *Parameters: US Army War College Quarterly*, Spring 2001, vol. 31, no. 1, pp. 4–15.

considered to occur across not just three but four distinct yet unequal levels: tactical, operational, strategic and, in his view, political.[166] A political level of war must, he argues, become the framework against which tactics, operations and strategy are conceived and executed. 'What we discovered increasingly [during the Kosovo campaign]', observed Clark, 'was that the political and strategic levels impinged on the operational and tactical levels'.[167]

Echoing Clark's notion of a political level of war, General Meigs highlighted the challenge, in a volatile information environment, of justifying military activity politically to governments and electorates.[168] Skill in tactics and operations would remain vital to strategic success. 'It is ironic', Meigs reflected, 'that in the information age, the growing technological sophistication of the art of operations requires an even more personal approach by the soldier to his political masters to engender their confidence in his operational art'.[169] For both Clark and Meigs, in contemporary military operations, skilled and adaptive planning has become crucial in correlating the levels of war to meet the demands of a security environment increasingly constrained by new political, media and legal factors.[170]

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166 General Wesley K. Clark, *Waging Modern War: Bosnia, Kosovo and the Future of Combat*, Public Affairs, New York, 2001, p. 10–11.

167 *Ibid.*

168 Meigs, 'Operational Art in the New Century', pp. 6–9.

169 *Ibid*., p. 13.

170 Clark, *Waging Modern War: Bosnia, Kosovo and the Future of Combat*, pp. 419–36; and Meigs, 'Operational Art in the New Century', pp. 4–15.

Similarly, the Russian theorist, General Makhmut Gareev, has rejected the 'end of the levels of war'. Formerly one of Marshal Ogarkov's close intellectual colleagues in the Soviet Army, Gareev became a leading figure in Russian military thought during the 1990s.[171] In his military writings, Gareev acknowledges that simultaneity and the dispersed battlespace will change the character of armed conflict, particularly in the sphere of tactics, which he describes as 'the most dynamic area of the military art'.[172] However, Gareev also remains convinced that constants such as the levels of war continue to retain their intrinsic value to the profession of arms. He writes:

> In spite of the fact that powerful means of warfare are in the hands of the highest military command . . . the results of [the] utilization of strategic strikes and destruction of hostile groupings will depend on the success of combat actions on the operational and tactical scale. And although the proportions of strategy, operational art and tactics have changed significantly, all these categories of military art retain their importance.[173]

Gareev believes that, because the conditions of the new battlespace encourage both long-range strike and rapid manoeuvre, there will have to be a dynamic approach to developing new tactics and operational techniques. The Russian theorist goes on to argue that mastery of technique

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[171] General Makhmut Gareev, *If War Comes Tomorrow?: The Contours of Future Armed Conflict*, trans. Yakov Vladimirovich Fomenko, Frank Cass, Publishers, London, 1998. For an analysis of Gareev as a military theorist see Jacob W. Kipp, 'Russian Military Forecasting and the Revolution in Military Affairs: A Case of the Oracle of Delphi or Cassandra?', *Journal of Slavic Military Studies*, March 1996, vol. 9, no. 1, pp. 1–45.

[172] Gareev, *If War Comes Tomorrow?*, pp. 114.

[173] *Ibid*., pp. 109–26.

must always guide the use of technology or else military practitioners risk a degeneration into attrition. 'To keep military art on a high level', Gareev notes, 'it is necessary . . . to possess an advanced level of operational–tactical thinking along with a creative approach [in order] to be able to expeditiously evaluate a situation and to analyse it'.[174]

Modern armies need to find an optimum balance between technology, doctrine and organisational methods at all levels of war. Without adequate doctrine and organisation to meet the demands of information systems, warfighting methods risk becoming narrowly delimited by new weapons technology. In short, all three levels of war must be defined in terms of their purposes and objectives. Real effectiveness in future conflict would only be possible 'provided that relative independence and initiative is entrusted to each level [of war], which in turn requires a fundamental transformation not only of means, but also of methods . . . necessitating new requirements in the training of military personnel'.[175]

It seems likely, then, that in the early 21st century, the three levels of war will retain their mental currency, albeit in much more visible and fluid political circumstances than those that distinguished warfare during the 20th century. The continuum of tactics, operations and strategy developed in the womb of continental warfare theory continue to give military practitioners a powerful intellectual framework to analyse the significance of multiple events in conflict as they unfold during a campaign. To

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[174] *Ibid*., pp. 172–3; 114–15.

[175] *Ibid*., pp. 180; 153–6. See also Michael Evans, 'Fabrizio's Choice: Organizational Change and the Revolution in Military Affairs Debate', *National Security Studies Quarterly*, Winter 2001, vol. 7, issue 1, pp. 1–25.

use a metaphor, tactics, operations and strategy are to war as mechanics, physics and astrophysics are to science.

As several British military theorists have noted, while the expanded battlespace and reach of technology increasingly compress the three levels of war, a typology of military actions continues to remain important to the profession of arms. The areas of tactics, operations and strategy still remain sufficiently differentiated to endure as intellectual categories into the foreseeable future.[176] After all, simultaneous fires on a nonlinear battlespace will still require a linking of combat actions and, as a result, coordination of ends, ways and means will remain vital. War remains an art rather than a science. Consequently, Clausewitz's friction, chaos and chance will invariably intervene to disrupt the workings of technology, placing an emphasis on fallible human judgment in tactics, operations and strategy. When the levels of war cease to perform their differential yet integral service to the art of war, they will disappear from the military lexicon.

The Decline of Aesthetic Symmetry: The Future of the Operational Art

In the 20th century, the development of the operational art—the fruit of the third or intermediate level of war—was the most significant theoretical contribution of the continental school of strategy to the art of land warfare. From the mid-1990s, however, doubts were raised in the American

[176] See A. S. H. Irwin, *The Levels of War: Operational Art and Campaign Planning*, The Occasional No. 5, Strategic and Combat Studies Institute, Camberley, 1993; and Brigadier C. S. Grant, 'The 2015 Battlefield', *The British Army Review*, Winter 2001–02, No. 128, pp. 5–13.

warfighting community as to whether the operational art retained its relevance in a post–Cold War era. In US military theory, the operational art became both a symbol of the past and a beacon of the future. The technique was an illustration of 20th-century symmetrical, European-style warfare. Yet it was also an expression that referred to the use of operations to achieve strategic objectives that might include asymmetric and non-military factors.

In 1994, the leading American military theorist, James J. Schneider, wrote that one of the essential conditions for the application of modern operational art was the need for a symmetrical opponent who possessed a conventional military philosophy. Schneider observed:

> The enemy must be operationally minded; he must be trained, armed, equipped, structured and commanded in the same way as the friendly force. Without this symmetry, or self-reflection, the whole aesthetic aspect of operational art is subverted: tremendous ambiguity and confusion ensue because the requisite creative medium does not exist.[177]

Schneider went on to state that, historically and from a creative standpoint, operational art found its fullest expression in the form of a distributed campaign—a military activity closely associated with mass armies in the industrialised wars of 20th-century Europe.[178] Expressed another way, Schneider appeared to doubt that 20th-century operational art could be used in new 21st-century conditions, in which smaller, more asymmetric

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[177] Schneider, *The Structure of Strategic Revolution*, p. 53. Emphasis added.

[178] *Ibid*., pp. 52–3. See also the views of Frederick Kagan, 'Army Doctrine and Modern War: Notes Toward a New Edition of FM 100-5', *Parameters, US Army War College Quarterly*, Spring 1997, vol. 27, no. 1, pp. 134–51.

military contingencies appeared to predominate across the globe from Somalia to Bosnia. His view reflected a reality that new technology has increasingly focused attention not on the size of a formation on a linear battlefield, but on the linkage between tactical action and strategic aim on a nonlinear battlespace.

For land power specialists, Schneider's restriction of the operational art to the arena of large-scale, conventional warfare raises the important question as to the technique's continued relevance in the changing military conditions of the 21st century. A focus on 'aesthetic symmetry' in force design between adversaries would suggest that, in an age of a sole superpower, operational art would have little relevance in conflicts between asymmetric opponents.

Schneider's reservations about the relevance of the operational art under increasingly asymmetric strategic conditions were taken up by a fellow American theorist, Robert Leonhard. The latter predicted that, in the global conditions of the early 21st century, the operational art would either wither away or become synonymous with strategy to the extent that the two activities would become indistinguishable. Leonhard wrote, 'like the bayonet charge, operational art will become a relic . . . Tactics will link (and must link) directly to strategy'.[179] Leonhard argued that grand strategy would swallow classical operational art because planning for global contingencies was clearly in the realm of strategy. He went on to observe:

> Campaign planning . . . once easily confined to military operations in a given theater, will become so intermixed with political, economic, informational, societal and cultural factors as

[179] Lieutenant Colonel Robert R. Leonhard, 'Factors of Conflict in the Early 21st Century', *Army*, January 2003, vol. 53, no. 1, p. 34.

> to quickly exceed the grasp and authority of regional combatant commanders and their staffs. The battlespace, when it grew beyond the Napoleonic battlefield, gave rise to operational art. It will now continue to grow beyond the capacity of operational art into the realm of grand strategy.[180]

Despite the views of Schneider and Leonhard, however, there was little consensus in American military circles on the future of the operational art. For instance, a number of American military theorists rejected force symmetry and large-scale European-style conventional warfare as the sole conditions for the application of the operational art.[181] Such theorists have argued that, under the fluid strategic conditions that have followed the end of the Cold War, the operational art is best conceived as being about the design of military activity across a 'spectrum of conflict' consisting of peace, crisis and war. Operations might easily involve regular soldiers, paramilitaries, guerrillas, terrorists, civilians and refugees.[182] In order to meet such diverse and potentially asymmetric

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[180] *Ibid*.

[181] See for instance James McDonough, 'The Operational Art: Quo Vadis?', in Richard D. Hooker (ed.), *Maneuver Warfare: An Anthology*, Presidio Press, Novato, CA, 1993, pp. 106–18; John M. Keefe, 'The Operational Art of Peace Enforcement', *Low Intensity Conflict & Law Enforcement*, Summer 1996, vol. 5, no. 1, pp. 63–86; Major Michael McCormick, 'The New FM 100-5: A Return to Operational Art', *Military Review*, September–October, 1997, vol. 77, no. 5, pp. 3–14; and Meigs, 'Operational Art in the New Century', pp. 4–15.

[182] See for instance Keefe, 'The Operational Art of Peace Enforcement', pp. 63–86; and Meigs, 'Operational Art in the New Century', pp. 4–15.

conditions, flexible options were 'the [new] paints, brushes and canvas of operational art'.[183]

The key to the practice of the operational art was seen as the avoidance of preordained formulas in favour of adaptation to the conditions at hand.[184] Intellectual concepts such as striking against the enemy's centre of gravity, determining decisive points in campaign planning, and linking operations to resources—all of which were associated with the operational level of war and the operational art—could be applied successfully across a spectrum of operations both large and small.[185]

In short, the requirements of strategy remain the key determinant in the use of the operational art. For instance, the US Marine Corps—a force with a tradition of 'small wars' and one that often operates in divisions and brigades rather than army groups and corps—has embraced the operational art since the 1980s because of its strategic significance.[186] Emphasising the use of operations to execute strategy, the American soldier, Colonel James McDonough, concluded in 1993:

> Attainment of national strategic objectives will remain the fundamental task of operational art. As these objectives are set in environments other than strictly defined wars, the operational-level considerations must be expanded to deal with them. Considerations

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[183] McCormick, 'The New FM 100-5: A Return to Operational Art', pp. 13–14.
[184] *Ibid.*, pp. 13–16.
[185] *Ibid.*, pp. 14–15; and Meigs, 'Operational Art in the New Century', p. 5.
[186] William S. Lind, 'The Operational Art', *Marine Corps Gazette*, April 1988, pp. 45–7.

> heretofore ignored, such as the resolution of crises and the reestablishment of peace, must enter into the campaign plan.[187]

In 1998, Edward Luttwak proposed that the United States consider the introduction of an 'Information-warfare Operational-level Method of War' to execute strategic objectives. Cold War–style forces, designed for conventional battle against symmetrical enemies, should be redesigned towards performing multi-service Special Operations in order to achieve highly specified operational and strategic goals.[188] Function and effectiveness, not size, are now the key factors in military capability. At the beginning of the 21st century, a special operations team in a tactical skirmish against an enemy rear area may be capable of disruptions that are of operational or even strategic significance.[189]

In the 1990s, British military theorists such as A. S. H. Irwin and Richard Connaughton echoed American views on the continuing strategic significance of the operational art.[190] Irwin argued that, for military planners engaged in determining the success or failure of strategic goals, 'it is the circumstances that count, not the numbers involved', while 'large scale is not a

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[187] McDonough, 'The Operational Art: Quo Vadis?', p. 115.

[188] Edward N. Luttwak, 'The Crisis of Classic Military Power and the Possible Remedy of "Post-Heroic" Intelligence-Based Warfare', in Henry and Peartree, *The Information Revolution and International Security*, pp. 70–104.

[189] Jonathan M. House, *Combined Arms Warfare in the Twentieth Century*, University Press of Kansas, Lawrence, KS, 2001, p. 5.

[190] Irwin, *The Levels of War: Operational Art and Campaign Planning*, *passim.*; Richard Connaughton, *Military Intervention in the 1990s: A New Logic of War*, Routledge, London, 1992 and *The Nature of Future Conflict*, Leo Cooper, London, 1995.

prerequisite for the exercise of operational art'.[191] Connaughton pointed out that operational-level options might embrace 'the broad spectrum of coercive intervention' (involving pre-conflict, conflict and post-conflict operations) and might include humanitarian relief, peace making and peacekeeping in a civil war, conventional warfare against an opponent and a parallel campaign against guerrillas or terrorists.[192] From a British perspective, both the Malayan Emergency of the late 1940s and early 1950s and the use of Special Air Service elements to hunt Scud missiles in the 1991 Gulf War provided examples of successful operational-level activity in conditions of unconventional or clandestine warfare.[193]

It is significant that, despite the debate in the United States on the future of the operational art, both the French and the Russians—two of the traditional titans of the continental military school—have continued to emphasise the importance of operational theory in modern conflict. French military theory continues to emphasise the importance of achieving operational superiority in differentiated tactical situations. While recognising the importance of information technology, French military thought insists that the capability of ground forces continues to rely on a mixture of command judgment and an appreciation of 'operational truth'.[194]

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[191] Irwin, *The Levels of War: Operational Art and Campaign Planning*, p. 3.

[192] Richard Connaughton, *Military Intervention in the 1990s: A New Logic of War*, Routledge, London, 1992, p. 1.

[193] Irwin, *The Levels of War: Operational Art and Campaign Planning*, pp. 14–15; 19–21.

[194] See French Army, General Staff/Doctrine and Combat Development, *Future Engagements by Ground Forces*, L'Armée de Terre, St-Cyr, 2000, pp. 56–70.

Moreover, the French strategic theorist, François Géré, has suggested that the RMA – information warfare concept represents not a strategic revolution so much as the dramatic evolution of a 'New Operational Art.'[195] For Géré, the RMA symbolises 'the arrival of a profound technological transformation, but it is not strategic rupture'. Rather, the RMA has the potential to strengthen the art of operations in armed conflict. The combined use of communications technologies, long-range precision strike and stealth platforms permits a novel refinement in the power of the operational art in that it facilitates simultaneous assault on an enemy in his front, flank and rear.[196]

Similarly, the leading Russian military theorist, Makhmut Gareev, has warned that successful strategy will continue to depend on operational skills honed by study of the military art. In particular, simultaneous air–land attack, or 'three dimensional operations', requires advanced operational knowledge capable of coordinating precise, long-range fires with the highly manoeuvrable actions of combined arms units in front and flanks, alongside tactical and operational assaults deep in the enemy rear.[197]

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[195] François Géré, 'RMA or New Operational Art?: A View from France', in Gongora and van Riekoff, *Towards a Revolution in Military Affairs? Defense and Security at the Dawn of the Twenty-First Century*, pp. 129–38.

[196] *Ibid*., pp. 132; 134. A similar view to that of Géré is expressed by the American theorist, Bruce W. Menning, who suggests that the perhaps best way to understand the RMA, 'would be to view it within the intellectual and doctrinal perspective of operational art', Menning, 'Operational Art's Origins', pp. 46–7.

[197] Gareev, *If War Comes Tomorrow? The Contours of Future Armed Conflict*, pp. 106–25.

The art of operations is not confined to large-scale conventional warfare but, like the levels of war from which it springs, has intrinsic military value across a spectrum of conflict. While the intellectual path towards full-spectrum military theory may be tortuous for the moment, the operational art continues to provide an effective way of integrating the requirements of modern military activities.[198] One only has to consider the staggering complexity of the modern battlespace with its myriad of aerial and electromagnetic systems to realise the imperative for continued operational skill.

In modern campaigning, the requirement for a balance between fire and manoeuvre, the need to measure the use of precise force against such factors as media scrutiny, legal constraints and political perceptions means that strategic command will need to continue to be coordinated with operational art. Success in full-dimensional operations will require steely resolve at the strategic level and great skill at the operational art. In the battlespace, operational skill will be particularly important in controlling the ISTAR resources that enable precision strikes to be linked to precision manoeuvre deep inside enemy territory, with the latter pitting rapier against mace.[199]

In short, the operational art, the great intellectual contribution of the continental school of strategy to 20th-century military theory, retains significance for two interconnected reasons. First, across a wide battlespace, only the logic of operational

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[198] Colonel Michael Krause, 'Preface', in Connaughton, *Military Intervention in the 1990s*, pp. xi–x.

[199] Major General Robert H. Scales Jr, *Yellow Smoke: The Future of Land Warfare for America's Military*, Rowman & Littlefield Publishers, Inc., Lanham, MD, 2003, pp. 157–8.

art prevents war from descending into a flurry of disconnected engagements governed by the calculus of attrition. Second, because campaign planning is defined by the requirements of strategy, operational art remains as important to modern warfare as the realm of tactics. Despite information technology and the compression of the levels of war, the creative human management of tactical actions—particularly across the spectrum of peace, crisis and war—will remain the central task of in-theatre commanders. What Clausewitz aptly described as the 'climate of war' composed of 'danger, exertion, uncertainty, and chance' has not been invalidated by technology of the digital age.[200] Such human elements are not subject to management by remote control, but must be mastered by commanders whose judgment is honed by knowledge of the art of operations.

Military theorists who declare the end of the operational art in favour of the rebirth of the strategy–tactics dichotomy have yet to provide a new intellectual framework for understanding the complexity of 21st-century warfare. They must ponder the dilemma identified by Jonathan Bailey's statement that 'the challenge of how to manage and exploit the high-density, three-dimensional battlespace of the future, incorporating fire and maneuver on land and in the air, with low-level control but high-level command, has yet to be convincingly explained'.[201]

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[200] Clausewitz, *On War*, p. 104.
[201] Bailey, *Field Artillery and Firepower*, p. 533.

The Extrinsic Dimension: Continental Strategy as an Instrument of Geopolitics

The second, extrinsic dimension of continental strategy involves using land power not as an autonomous element of war, but as a component of geopolitics in a grand, or national security, strategy. The aim is to integrate land power with all of the instruments of state power—diplomatic, military, financial and economic—in order to serve goals set by policy. As Paul Kennedy points out, the critical issue that determines how such instruments will be employed is that of 'the geographical factor' of strategic location.[202] It is the geographical configuration of a state's land frontiers or its island location that helps to shape strategy into continental or maritime frameworks. Using the conflict between the various European powers from the 17th to the 19th centuries, Kennedy illustrates the timeless geopolitical questions that all statesmen must consider when contemplating the use of force:

> Was a particular [European] nation able to concentrate its energies upon one front, or did it have to fight on several? Did it share common borders with weak states, or powerful ones? Was it chiefly a land power, or a sea power, or a hybrid—and what advantages and disadvantages did that bring? Could it easily pull out of a great war in central Europe if it wished to? Could it secure additional resources from overseas?[203]

The answers to such questions mean that armies become pieces on the chessboard of geopolitics. On this chessboard, the facts

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[202] Paul Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*, Fontana, London, 1989, p. 111.

[203] *Ibid*., pp. 111–12.

of geography, the ambitions of strategy and the realities of politics and technology all interact. As Svechin pointed out in the 1920s, the geopolitical dimension of modern war requires a dialogue between soldiers and statesmen. For success to be achieved, there must be a common understanding of the complex relationship between war, economy and politics.[204]

A similar call has been made more recently by both American and Chinese military theorists. The American military theorist, Robert Leonhard, has called for future commanders to master not simply tactics and operations, but also the intricacies of grand strategy because, in 21st-century conditions, they will have to operate, simultaneously, in both worlds.[205] Some Chinese analysts maintain that warfare should be conceived in terms of a grand strategy of 'supra-domain' combinations of politics, economics, culture and religion. The formulation of higher strategy requires diverse elements because, in the age of globalisation, 'warfare is in the process of transcending the domains of soldiers, military units, and military affairs, and is increasingly becoming a matter for politicians, scientists, and even bankers'.[206]

Although the parameters between war and other socio-political elements are open to debate, the trend is unmistakably towards a greater convergence. In the 21st century, military commanders will almost certainly require better knowledge of the connections between purely military strategy and the world

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[204] See Jacob W. Kipp, 'General-Major A. A. Svechin and Modern War: Military History and Military Theory', in Svechin, *Strategy*, pp. 23–60.

[205] Leonhard, 'Factors of Conflict in the 21st Century', p. 35.

[206] Qiao Liang and Wang Xiangsui, *Unrestricted Warfare*, PLA Literature and Arts Publishing House, Beijing, 1999, pp. 221;189.

of grand strategy or national security policy. They must therefore pay closer attention to the study of the extrinsic dimension of the continental school of strategy, that is, to the geopolitical role of land power. In the glare of a global electronic media and in an era of instant communications, no commander will be able to take refuge in the old adage of 'simple soldiering'.

Such a transition may not be easy. Historically, soldiers, from Helmuth von Moltke the Elder to Douglas MacArthur, have drawn their inspiration from the notion that the uniformed professional is above all a technician of violence, a lancet in the hands of the diplomatic surgeon. For the military technician, the act of battle in war suspends politics. This view was well summed up in 1951 by MacArthur when he told the United States Congress, 'I do unquestionably state that when men become locked in battle that there should be no artifice under the name of politics'[*sic*].[207] Yet, in the 21st century, it is increasingly likely that military practitioners will not only have to understand the tactics and operations of land warfare, but also the strategic role of land power in the broadest sense. In short, they will have to understand the dual dimensions of the continental school of strategy.

In this respect, an improved study of the history of the continental school of strategy will be mandatory. The European experience of warfare demonstrates how armies have always been important tools on the chessboard of grand strategy. All of the great land powers of modern European

[207] Quoted in Michael Howard, 'War as an Instrument of Policy', in Herbert Butterfield and Martin Wight (eds), *Diplomatic Investigations: Essays in the Theory of International Politics*, George Allen & Unwin, London, 1966, p. 200.

history—Napoleonic France, Nazi Germany and more recently the Soviet Union—have attempted to convert their continental supremacy into a wider world dominance. All have tried 'to conquer the sea by the power of the land', by pitting continental strategy against maritime strategy.[208] France, for example, sought to become a hybrid power, waging both continental and maritime strategies. Yet France's natural strength always lay in its land power based on indigenous raw materials, homogeneous territory, agricultural self-sufficiency and a large population that enabled the fielding of a large army. The country was a natural 'land wolf'.

Under both Louis XIV and Napoleon, France also sought to become a maritime power, and succeeded only in dissipating her continental efforts. Restricted on land by European enemies and diverted by British sea power, France lacked the resources to become a global 'superpower'. Conversely, sea powers are not immune to the lure of the land, as the case of Holland suggests. Between the late 17th and mid-18th centuries, Holland was a leading sea power, but this status fell into sharp decline once the Dutch were forced to expend their resources on expanding their army to fight France on land. In the Dutch case, the vulnerability of a continental state pursuing sea power to larger military neighbours was vividly demonstrated.[209]

Between the mid-16th and early 20th centuries, continental land power tended to be at a great disadvantage in a struggle against maritime sea power. In terms of strategy, dominating the maritime circumference seemed to hold greater advantages

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[208] Kennedy, *The Rise and Fall of the Great Powers*, ch. 3. See also Gray, 'Geography and Grand Strategy', pp. 311–29.

[209] Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*, p. 112–16.

than holding the continental centre. The German geographer of the 1920s, J. März, drew a useful comparison between the agility of sea power and the slower processes of land power based on the use of space:

> Seapower masters great spaces by leaping lightly from point to point. Seapower husbands its strength and seeks to gain with the least effort the greatest advantages by the subtle adaptation to existing conditions . . . Landpower by contrast advances methodically, seeks to establish its control by thorough organisation and, above all, to preserve the mobility of its forces.[210]

Until the late 19th century, effective concentration of land power was difficult because of primitive communications that, in turn, led to many small and fragmented states (as in Germany before 1871). Land power could only move at the speed of horse and foot; it lacked the strategic reach and flexibility of sea power that could always outflank a land opponent. Economically, trade and commerce was far quicker by sea and there were few means for a land power to deny overseas trade to a sea power enjoying compact geography. As Sir Walter Raleigh put it, 'whosoever commands the trade of the world commands the riches of the world and consequently the world itself'.[211] For these reasons, Britain prospered during the great continental wars in Europe and, by the early 19th century, had become the dominant sea power and the greatest empire of the modern world. In the period between 1660 and 1815, it was maritime Britain rather than the continental giants of France and Russia that made the most strategic advances, dislodging France as the greatest of the powers.[212]

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[210] Parker, *Western Geopolitical Thought in the Twentieth Century*, p. 61.
[211] Cited in Parker, *Mackinder: Geography as an Aid to Statecraft*, p. 188.
[212] Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*, pp. 123–30.

In 1890, the American naval theorist, Captain Alfred Thayer Mahan, celebrated the virtues of maritime strategic supremacy in his famous study *The Influence of Sea Power upon History, 1660–1783*.[213] Mahan argued that a state with a land as well as a maritime frontier was at an enduring, and usually fatal, geostrategic disadvantage when in naval competition with a wholly insular opponent such as Britain. An insular state, he argued, could use maritime mobility to project power and change its point of attack and application of force with rapidity. Mahan wrote:

> If a nation be so situated that it is neither forced to defend itself by land nor induced to seek extension of its territory by way of land, it has, by the very unity of its aim directed upon the sea, an advantage as compared with a people one of whose boundaries is continental.[214]

Britain's 19th-century power and prosperity seemed to vindicate Mahan's view that command of the sea was the route to world greatness. Mahan's writings seemed to give credence to the famous saying of the 16th-century English philosopher, Francis Bacon: 'He that commands the sea is at great liberty and may take as much or as little of the war as he will, whereas those that be strongest on land are many times nevertheless in great straits'.[215]

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[213] Alfred Thayer Mahan, *The Influence of Sea Power upon History, 1660–1783*, Little, Brown, Boston, 1890.

[214] *Ibid*., p. 29.

[215] Quoted in Field Marshal Lord Carver, 'Continental or Maritime Strategy? Past, Present and Future', *RUSI Journal*, Autumn 1989, vol. 139, no. 3, p. 61.

Continental powers such as Spain and France failed to defeat British sea power. Britain appeared to triumph over its continental foes by a strategy of limited liability. The country's naval strength was combined with financial support for pro-British European coalitions and the use of relatively small-scale military involvement on the continent (Marlborough fighting in the Low Countries in the War of the Spanish Succession of 1701–14 and Wellington in the Iberian Peninsula against Napoleon between 1808 and 1814). This strategy of limited liability avoided overextension through a large continental military commitment and became the basis for what Sir Julian Corbett and Liddell Hart later popularised as the strategy of indirect approach and 'the British way of warfare'.[216] Britain's naval power and its geostrategic position allowed it to use alliances and financial subsidies to wage war on its European rivals. Britain's was a Janus-faced strategy, 'with one face turned towards the Continent to trim the balance of power and the other directed at sea to strengthen her maritime dominance'.[217]

Mackinder's Theory of Land Power

At the very time Mahan was writing about the supremacy of Britain based on command of the sea, the balance of power between the schools of maritime strategy and continental strategy was shifting in favour of the latter. In 1904, the British geographer, Sir Halford Mackinder, presented a now-famous

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[216] Paul Kennedy, *The Rise and Fall of British Naval Mastery*, Allen Lane, London, 1976, chapters 3–6; and Colin S. Gray, 'History for Strategists: British Seapower as a Relevant Past', in Geoffrey Till (ed.), *Seapower: Theory and Practice*, Frank Cass, London, 1994, pp. 7–32.

[217] L. Dehio, *The Precarious Balance*, London, 1963, p. 118.

thesis called 'The Geographic Pivot of History', outlining the reasons for the growing importance of continental land power as opposed to maritime sea power.[218]

What Mackinder called the Columbian epoch of overseas exploration and colonial conquest by European seaborne power that had lasted from 1500 to 1900 was ending because there was little of the world left to explore and conquer. Mackinder thus predicted 'the end of the Columbian Age' at the hands of Eurasian land power. The impact of this process on international politics would be immense and, in the future, international rivalry would take place in a much more enclosed political environment, in which efficiency and internal development would replace overseas expansionism as the main aim of modern states.[219]

Mackinder went on to point out that the industrial revolution had transformed land communications through transcontinental railways and the invention of the internal combustion engine. Technological conditions now favoured the effective politico-economic unification of great landmasses in a way that had been impossible in pre-industrial times. Accordingly, for the first time in history, there would be 'a correlation between the larger geographical and the larger historical generalisations'.[220]

In other words, geographical size would count decisively and future power would lie with those states that had the largest

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[218] H. J. Mackinder, 'The Geographical Pivot of History', *Geographical Journal*, April 1904, vol. 23, no. 4, pp. 421–37.

[219] *Ibid.*, pp. 422–3.

[220] Paul Kennedy, 'Mahan versus Mackinder: Two Interpretations of British Sea Power', in idem, *Strategy and Diplomacy 1870–1945: Eight Studies*, Allen & Unwin, London, 1983, p. 46.

territory, the best natural resources and the biggest populations. No longer would small maritime states such as Holland and Britain outflank the great landmasses and become dominant powers because of their compact geography and mastery of the sea.[221] Moreover, it was easier for land power to take to the sea than for sea power to take to the land. In short, the future lay with land power, and it would appear to be no accident that Mackinder drew on the tactical concept of the 'central position' in Napoleonic warfare to develop his idea of the importance of the continental Heartland in global geostrategy.[222]

Over the next forty years, in the course of his writings, Mackinder developed his idea of a pivotal land mass being transformed by industrialisation and modern transport into the thesis of the Heartland.[223] In the 20th century, real power would lie with what Mackinder identified as the great strategical 'pivotal area' of the world: Eurasia—Eastern Europe and Central Asia including Germany, Russia, Asia Minor and Mongolia—which he called the Heartland since it represented 'the greatest natural fortress in the world'.[224]

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221 Mackinder, 'The Geographical Pivot of History', pp. 433–6.

222 See Christopher J. Fettweis, 'Revisiting Mackinder and Angell: The Obsolescence of Great Power Politics', *Comparative Strategy*, June 2003, vol. 22, no. 2, pp. 109–29.

223 For the development of Mackinder's geopolitical ideas see W. H. Parker, *Mackinder: Geography as an Aid to Statecraft*, Clarendon Press, Oxford, 1982; and Geoffrey Sloan, 'Sir Halford J. Mackinder: The Heartland Theory Then and Now', in Colin S. Gray and Geoffrey Sloan (eds), *Geopolitics: Geography and Strategy*, Frank Cass Publishers, London, 1999, pp. 15–38.

224 H. J. Mackinder, 'The Round World and the Winning of the Peace', *Foreign Affairs*, July 1943, vol. 21, p. 601.

The pivotal Heartland would yield vast continental resources and transform the closed countries of Eastern Europe and Central Asia. The consequences of the development of the Eurasian Heartland would be profound for Britain and other peripheral sea powers. In any future struggle between the circumference of Europe and the European centre, the odds favoured the latter. As Mackinder famously put it in 1919, in terms of a jingle:

> Who rules East Europe commands the Heartland;
> Who rules the Heartland commands the World-Island;
> Who rules the World-Island commands the World'.[225]

By the late 1940s, Mackinder's Heartland thesis had become almost synonymous with the threat that the great continental land powers, first Germany and then Russia, posed to Britain, Western Europe and the United States.[226]

Mahan's idea of command of the sea and Mackinder's notion of the growing supremacy of the Heartland crystallised the differences between sea power and land power, and brought both approaches to strategy into the realm of geopolitical theory.[227] However, Mackinder's theory of continental strategic power did not achieve the popularity in Britain and the United States of Mahan's theory of command of the sea.

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[225] H. J. Mackinder, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction*, Constable, London, 1919, p. 194.

[226] See Parker, *Western Geopolitical Thought in the Twentieth Century*, chapters 7–8.

[227] See Kennedy, 'Mahan versus Mackinder: Two Interpretations of British Sea Power', pp. 41–85. For an interesting perspective on Mahan's geopolitical thought see Jon Sumida, 'Alfred Thayer Mahan, Geopolitician', in Gray and Sloan, *Geopolitics, Geography and Strategy*, pp. 39–62.

There were two reasons for this state of affairs. First, Mackinder initially outlined his Heartland theory against the background of Japan's 1904–05 victory over Russia—which many British and American observers interpreted as a victory for a new sea power over a traditional land power—thus vindicating Mahan rather than Mackinder.

Second, in the 1930s, Mackinder's ideas about the importance of the Heartland were taken up and distorted by the Nazi school of geopolitics in Germany in order to justify Hitler's martial *Weltpolitik*. Such figures as Karl Haushofer sought to make geography the ally, not the enemy, of German strategy based on such concepts as *Lebensraum* (living space), *Drang nach Osten* (drive to the East) and economic autarky.[228]

It is now widely recognised that it was the geopolitical theory of Mackinder rather than that of Mahan that more accurately identified the nature and shape of 20th-century conflict. Indeed, until its final years, the 20th century was in Robert Fry's phrase 'a continental century'—an era in which two great land powers, Nazi Germany and later the Soviet Union, posed a threat to the existence of Western civilisation.[229] Both Germany and the Soviet Union operated from a geographical area broadly corresponding to Mackinder's Eurasian Heartland. In both World War II and the Cold War, the land power of the Heartland could only be overcome by a combination of continental and maritime strategies.

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[228] Holger H. Herwig, '*Geopolitik*: Haushofer, Hitler and Lebensraum', in Gray and Sloane, *Geopolitics: Geography and Strategy*, pp. 218–41; Parker, *Western Geopolitical Thought in the Twentieth Century*, ch. 5 and *Geopolitics: Past, Present and Future*, ch. 3.

[229] Brigadier Robert Fry, 'End of the Continental Century', *RUSI Journal*, June 1998, vol. 143, no. 3, p. 18.

Thus, in World War II, the land power of Nazi Germany was defeated by a global alliance of land and sea power operating from the Heartland (Eurasia) in the east and from the North Atlantic (that which Mackinder called the Midland Ocean) in the west. On the Eastern Front, land power was supplied by Russia, while in the West a combination of sea–land forces was provided by the 'three amphibious powers' of America, Britain and France. America provided 'depth of defence', Britain provided a 'moated forward stronghold' and France served as a 'defensible bridgehead'.[230]

The fate of maritime Britain in its struggle against continental Germany is a good illustration of how accurately Mackinder forecast the changed nature of strategic power in the 20th century. The two world wars broke the myth of indirect strategy and the 'British way of warfare'. In the first half of the 20th century, Britain discovered that her traditional strategy of limited liability—based on naval blockade, peripheral continental attack and coalition diplomacy as evolved between the 17th and 19th centuries—was inadequate against a unified, industrialised continental power such as Germany. By 1911 Britain was forced to seek a new balance of power in Europe by emphasising a more even-handed policy between maritime and continental strategy. This geopolitical approach involved the modification by the British of their 400-year-old policy of limited war based on maritime power in favour of developing a

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[230] H. J. Mackinder, 'The Round World and the Winning of the Peace', *Foreign Affairs*, July 1943, vol. XXI, no. 4, pp. 595–605; Gerace, 'Between Mackinder and Spykman: Geopolitics, Containment and After', p. 352; and Parker, *Western Geopolitical Thought in the Twentieth Century*, pp. 121–2.

continental strategy involving the deployment of a large professional army on European soil.[231]

In World War I, the British found that they could no longer rely on peripheral military operations in their efforts to defeat Germany. Instead they were forced to commit mass armies to fight on the Western Front from 1916 to 1918 in a way they had never done before in their history. While British naval power was important to the outcome of the Great War, it was clear that the decisive victories had occurred on land. In World War II, Britain discovered, yet again, that the old indirect strategy of limited liability was ineffective in a total war against a modern, industrialised continental foe. As Paul Kennedy succinctly puts it, '[Britain's] Mahanite methods were ineffectual against a power [Germany] which had adopted a Mackinderite programme'.[232]

In the end, Germany was defeated by the efforts of the Red Army in the Heartland of the Eastern Front and by the massive application of American power on a global scale. At the end of World War II in 1945, Britain was eclipsed as a global power by the continental-sized Mackinderite states of the Soviet Union and United States. By 1960, the great maritime-based British Empire had largely disappeared in a swift decline that would have been thought impossible to many observers in 1900.

From the late 1940s to the end of the 1980s, the character of the East–West Cold War continued to vindicate Mackinder's

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[231] See Michael Howard, *The Continental Commitment: The Dilemma of British Defence Policy in the Era of the Two World Wars*, Temple Smith, London, 1972, esp. chapters 2–5.

[232] Kennedy, 'Mahan versus Mackinder: Two Interpretations of British Sea Power', p. 75.

continental land power view of international politics. Mackinder's views influenced the architect of US containment policy in the Cold War, George Kennan, and informed one of the most celebrated texts on strategy, Edward Meade Earle's 1943 book, *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler*.[233] Indeed, the Heartland theory became the dominant geopolitical paradigm of the Cold War and decisively shaped the character of US containment policy against the Soviet Union, thus becoming 'the first premise in Western military thought' for forty years.[234]

Mackinder's geopolitical theory that history could be explained by the confrontation between land power and sea power provided the intellectual framework for subsequent variations on the Heartland theme. The Mackinderite land–sea antithesis—whether expressed as a struggle between a 'trade-dependent maritime world' and a 'Eurasian continental world', or in terms of an amphibious Rimland versus a continental Heartland—dominated much of the strategy of the 20th century.[235] As the strategic theorist, Colin S. Gray, puts it:

> By far the most influential geopolitical concept for Anglo-American statecraft has been the idea of a Eurasian 'heartland'

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[233] Robert E. Walters, *Sea Power and the Nuclear Fallacy: A Revolution of Global Strategy*, Holmes & Meier Publishers, Inc., New York, 1975, pp. 21; 178.

[234] *Ibid*., p. 22. See also Michael P. Gerace, 'Between Mackinder and Spykman: Geopolitics, Containment and After', *Comparative Strategy*, October–December 1991, vol. 10, no. 4, pp. 347–64.

[235] Saul B. Cohen, *Geography and Politics in a Divided World*, Methuen, London 1964, pp. 64–5; Nicholas Spykman, *The Geography of the Peace*, Harcourt Brace, New York, 1944; Gerace, 'Between Mackinder and Spykman: Geopolitics, Containment and After', pp. 347–64.

> and then the complementary idea-as-policy of containing the heartland power of the day, within, not to, Eurasia. From Harry S. Truman to George [H. W.] Bush, the overarching vision of US national security was explicitly geopolitical and directly traceable to the heartland theory of Mackinder.[236]

From the 1950s until the 1970s, American strategists sought to pin the Soviet Union to its Eurasian Heartland by employing a largely continental strategy to defend Western Europe. Such an approach involved supplying NATO with conventional ground forces and tactical nuclear weapons to match the power of the Warsaw Pact on the Central European Front.[237] However, by the 1970s, the Soviet Union, like the Imperial German Navy under Tirpitz before it, sought to break out of Eurasia by developing a powerful blue-water fleet. The rise of Soviet sea power under Admiral Sergei Gorshkov led to a fierce intellectual debate over Soviet strategy in the American Pentagon of the 1980s between the advocates of continental strategy on the one hand and the proponents of maritime strategy on the other.[238]

The continentalists argued that the Soviet Union in its heartland was invulnerable to the effects of American sea power. They argued that America's main strategic problem was defending Western Europe and, in this situation, US and Western European sea power could not prevent a Soviet air–

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[236] Colin S. Gray, 'The Continuing Primacy of Geography', *Orbis: A Journal of World Affairs*, Spring 1996, vol. 40, no. 2, p. 258.

[237] G. R. Sloan, *Geopolitics in United States Strategic Policy, 1890–1987*, chapters 5–8.

[238] Keith Dunn and William Staudenmaier, *The Strategic Implications of the Continental–Maritime Strategy Debate*, Washington Paper No. 107, Washington Center for Strategic and International Studies, Washington, DC, 1984.

land assault across the NATO Central Front. The maritimists—led by such figures as John Lehman, the Secretary of the Navy—believed that reliance by NATO on a predominantly land power strategy against the Warsaw Pact would be highly dangerous. Such a strategy courted a static defence, a tripwire war and a potential nuclear disaster.[239]

As a result, the maritimists developed the alternative Maritime Strategy based on the principles of mobility, surprise and extended conventional conflict that has been described as 'the most clearly and carefully articulated theory of the war in which seapower could be brought to bear against landpower since 1945'.[240] The aim of the Maritime Strategy was to use US sea power in direct warfighting against the Soviet Union's northern and southern flanks combined with the destruction of the Soviet fleet.[241] Before the US continental-maritime debate could be resolved however, the Soviet Union collapsed internally delivering political victory to the United States and the West.

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[239] Robert W. Komer, 'Maritime Strategy versus Coalition Defense', *Foreign Affairs*, Summer 1982, vol. 60, no. 5, pp. 1124–43.

[240] Geoffrey Till, 'Editorial Introduction', in Till, *Seapower: Theory and Practice*, p. 4.

[241] See Michael Vlahos, 'Maritime Strategy Versus Continental Commitment?', *Orbis: A Journal of World Affairs*, Fall 1982, vol. 26, no. 3, pp. 583–9; Frank E. Jordan III, 'Maritime–Continental Debate: A Strategic Approach', in Thomas Gill (ed.), *Essays on Strategy V*, National Defense University Press, Washington, DC, 1988, pp. 205–28; George G. Weickhardt, 'US Maritime Strategy and Continental Options', *Military Technology*, January 1989, no. 1, pp. 306–10; and Geoffrey Till, *Seapower: A Guide for the Twenty-First Century*, Frank Cass, London, 2004, pp. 44–5.

'The End of Geography' Debate

In 1901 the strategic world of Mahan and Mackinder was two-dimensional—land and sea were the only two environments. A century later, in 2001, the strategic world had become five-dimensional, with land and sea now joined by air, space and the electromagnetic spectrum. During the 1990s, the expansion of the media of strategy led to a debate in Western strategic circles over the alleged growing irrelevance of geography and, by implication, of continental strategy and of the primacy of land forces in war.

The main agents in expanding the media of strategy are the ongoing information revolution and the process of globalisation. In the age of satellites, cell phones, 24-hour television, digital photography and the Internet, war is now global.[242] In combination, the rise of information technology and the growth of the global political economy are seen by a number of social theorists and strategic thinkers as creating a system of global networking that links national, regional and international politics. These linkages tend to erase classic geographical formulations. In Robert Leonhard's words, in globalised political conditions, the battlespace becomes a singularity both geographically and with regard to the elements of geopolitical power: economics, information, diplomacy and military power.[243] As one major geographical study notes, 'the rapid expansion of information technologies over the last decade has led to some commentators to identify an "end to geography" paralleling the "end of history" that [Francis]

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[242] Robert O. Keohane and Joseph Nye Jr, 'Power and Interdependence in the Information Age', *Foreign Affairs*, September–October 1998, vol. 77, no. 5, pp. 81–94.

[243] Leonhard, 'Factors of Conflict in the Early 21st Century', p. 34.

Fukuyama associated with the triumph of liberal democracy in the late 1980s'.[244]

War, Cyberspace and Geopolitics

Advocates of the eradication of geography believe that the spatial logic of modern society is being reconfigured by global telecommunications. [245] Phrases such as 'instant wars', the 'death of distance', 'the end of geography', the coming of 'byte city' and 'the empire of speed' have been invoked by some scholars to suggest dramatic change in the world of international politics. Many of the 'end of geography' advocates believe that technological innovation in transportation, communications and military weaponry has the potential to overcome the constraints of physical terrain and territorial power, and so change the relationship between distance, space and force.[246]

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[244] Peter J. Taylor, Michael J. Watts and R. J. Johnston, 'Remapping the World: What Sort of Map? What sort of World?', in R. J. Johnston, Peter J. Taylor, and Michael J. Watts, *Geographies of Global Change: Remapping the World*, Blackwell Publishing, Oxford, 2002, 3rd edn, p. 449.

[245] Rob Kitchin and Martin Dodge, 'The Emerging Geographies of Cyberspace', in Johnston, Taylor and Watts, *Geographies of Global Change*, pp. 340–54.

[246] Manuel Castells, *The Information Age: Economy, Society and Culture, Vol. 1, The Rise of the Network Society*, Blackwell Publishers, London, 1996, pp. 484–90; F. Cairncross, *The Death of Distance: How the Communications Revolution Will Change Our Lives*, Harvard Business School Press, Boston, MA, 1997; J. Michael Greig, 'The End of Geography: Globalization, Communications, and Culture in the International System', *The Journal of Conflict Resolution*, April 2002, vol. 46, no. 2, pp. 225–43; Michael Vlahos, 'The War after Byte City', *The Washington Quarterly,* April 1997, vol. 20, no. 2, pp. 41–72; and

From a military perspective, since the mid-1990s, the 'end of geography' debate has been embraced by several advocates of information warfare. These advocates believe that the rise of a trinity of sensors, low-observable platforms (or stealth technologies) and precision-guided missiles have begun to alter the entire calculus of conventional conflict. As Mackinder saw the rise of the railway as signalling the key to unlocking the potential of the Heartland at the expense of maritime nations, so the information warfare advocates see the rise of networks and information technology as a portent of the decline of geopolitics and continental strategy.[247] In many respects, the 'end of geography' theme promoted by information warfare advocates is not a new idea. Rather it represents an intellectual extension of Alexander de Seversky's assertion of the early 1950s that the development of strategic bombing had created a new 'geopolitics of air power' that had abolished traditional geographical constraints on strategy.[248]

Over the past decade, information warfare advocates associated with the RMA school—such as Admiral William Owens, Martin Libicki, Richard Szafranski, Walter B. Wriston and Christopher Fettweis—have argued that the information revolution and the rise of global networks have altered the

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Ronald J. Deibert, 'Harold Innis and the Empire of Speed', *Review of International Studies*, April 1999, vol. 25, no. 2, pp. 273–90.

247 For a good discussion of some of the main ideas of the information warfare advocates, see David J. Lonsdale, 'Information Power, Strategy, Geopolitics and the Fifth Dimension', in Gray and Sloan, *Geopolitics, Geography and Strategy*, pp. 137–60.

248 Alexander de Severksy, *Air Power, Key to Survival*, Simon and Schuster, New York, 1950.

whole nature of time, space and distance in modern warfare.[249] Admiral Owens has visualised information technology as producing a transparent battlespace the size of Iraq or North Korea in which there is 'unprecedented fidelity, comprehension and timeliness; by night or day, in any kind of weather, all the time'.[250] Owens' idea of an immaculate battlespace impervious to geographical obstacles recalls the May 1997 neo-Severskian belief of the US Air Force Chief of Staff, General Ronald Fogelman, that 'in the first quarter of the 21st century you will be able to find, fix or track, and target—in near real time—anything of consequence that moves upon or is located on the face of the Earth'.[251]

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[249] Martin Libicki, *The Mesh and the Net: Speculations on Armed Conflict in an Age of Free Silicon*, National Defense University, Washington DC, McNair Paper 1994 and 'The Emerging Primacy of Information', *Orbis: A Journal of World Affairs*, Spring 1996, vol. 40, no. 2, pp. 261–73; Richard Szafaranski, 'A Theory of Information Warfare: Preparing for 2020', *Airpower Journal*, Spring 1995, vol. 9, no. 1, pp. 58–62; Walter B. Wriston, 'Bits, Bytes and Diplomacy', *Foreign Affairs*, September/October 1997, vol. 76, no. 5, pp. 172–82; Christopher J. Fettweis, 'Sir Halford Mackinder, Geopolitics, and Policymaking in the 21st Century', *Parameters: US Army War College Quarterly*, Summer 2000, vol. 30, no. 2, pp. 58–71 and 'Revisiting Mackinder and Angell: The Obsolescence of Great Power Geopolitics', *Comparative Strategy*, May–June 2003, vol. 22, no. 2, pp. 109–29.

[250] Admiral Bill Owens with Ed Offley, *Lifting the Fog of War*, Farrar, Strauss and Giroux, New York, 2000, p. 14.

[251] Statement by General Ronald R. Fogelman to the US Congress's House National Security Committee, 1 May 1997, quoted in Michael O'Hanlon, *Technological Change and the Future of Warfare*, Brookings Institution Press, Washington DC, 2000, p. 13.

For Martin Libicki, precision-guided munitions will separate information from force, while 'cyberspace will tend to eliminate geopolitics through its influence on military security, rather than (or at least in addition to) its influence on international politics'.[252] He goes on to suggest that the geopolitical landscape will change because a form of strategic information warfare will be projected globally without recourse to physical geography. Information, through 'sensing, redirecting, cuing, filtering, pinpointing, classifying, and creating target determinations' will gradually erode environmentally specific warfare. American and Western information technology will make war less of a force-on-force experience and more of a hide-and-seek activity, while information flow will become central to developing concepts such as network-centric warfare.[253]

Wriston and Fettweis have expressed similar views to those held by Owens and Libicki. Wriston observes, 'information technology has demolished time and distance', while Fettweis notes that, because American armed might can be projected around the world from almost any position, 'the geographical location of bases (and indeed geography itself) is becoming increasingly irrelevant'. Moreover, geopolitics—in the tradition of Mahan, Mackinder, Nicholas Spykman, Henry Kissinger and Zbigniew Brzezinski—has become obsolete.[254]

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[252] Libicki, 'The Emerging Primacy of Information', p. 262.

[253] *Ibid.*, p. 264.

[254] Wriston, 'Bits, Bytes and Diplomacy', p. 172; Fettweis, 'Sir Halford Mackinder, Geopolitics, and Policymaking in the 21st Century', p. 65; and 'Revisiting Mackinder and Angell: The Obsolescence of Great Power Geopolitics', p. 123. See also Everett C. Dolman, 'Geography in the Space Age: An Astropolitical

Yet the proposition that information dominance will eliminate the importance of geography and geopolitics is clearly exaggerated. While it is true that time–space relations are being reconfigured by information networks, the role of territory as an organising principle continues to define human social relations.[255] As David Lonsdale has warned, the 'fifth dimension', or the 'infosphere', does not have its own environment and cannot apply unilateral force. Rather, information acts as a medium for more efficient and faster physical expressions of strategic power.[256]

In short, the information revolution has not so much rendered physical geography and physically based military forms of power irrelevant, but acts as an enabler to both. Improved technology may ameliorate, but will not end, the timeless challenge of mastering tactical topography and of 'battling the elements'. It remains a truism that 'physical geography has a

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Analysis', in Gray and Sloan, *Geopolitics, Geography and Strategy*, pp. 83–106.

255 The complexity of the relationship between information technology and security is well explored in Robert Latham (ed.), *Bombs and Bandwith: The Emerging Relationship between Information Technology and Security*, The New Press, New York, 2003. For critiques of the RMA information warfare advocates see Ryan Henry and C. Edward Peartree, 'Military Theory and Information Warfare', in Ryan Henry and C. Edward Peartree (eds), *The Information Revolution and International Security*, CSIS Press, Washington DC, 1998, pp. 105–27; Stephen Biddle, 'The Past as Prologue: Assessing Theories of Future Warfare', *Security Studies*, Autumn 1998, vol. 8, no. 1, pp. 1–74; and Michael O'Hanlon, *Technological Change and the Future of War*, chapters 2, 5–6.

256 David J. Lonsdale, 'Information Power, Strategy, Geopolitics and the Fifth Dimension', in Gray and Sloan, *Geopolitics, Geography and Strategy*, pp. 137–60.

continuous, powerful, and profound effect on the nature and course of combat'.[257] An age of global information networks does not instantly liberate the art of warfare from the geographical and logistical realities of the physical world. What one scholar has called 'the unbearable heaviness of being' remains to challenge practitioners of modern armed conflict.[258]

Not surprisingly, military analysts such as John M. Collins, Colin S. Gray, David Hansen and John Mearsheimer have argued that the realities of geography and geopolitics in conditioning strategy remain inescapable. Collectively, they have refuted the suggestion that knowledge drawn from superior information networks will become more important than knowledge of terrain, spatial relationships and demography.[259] As Gray puts it, '[the idea] that technology has cancelled geography contains just about enough merit to be called a

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[257] Harold A. Winters with Gerald E. Galloway Jr, William J. Reynolds and David W. Rhyne, *Battling the Elements: Weather and Terrain in the Conduct of War*, The Johns Hopkins University Press, Baltimore, MD, 1998, p. 4.

[258] See Thomas M. Kane, *Military Logistics and Strategic Performance*, Frank Cass, London, 2001, p. 152.

[259] John M. Collins, *Military Geography for Professionals and the Public*, National Defense University Press, Washington, DC, 1998; Colin S. Gray, 'The Continued Primacy of Geography', pp. 247–60; 'Inescapable Geography', in Colin S. Gray and Geoffrey Sloan (eds), *Geopolitics, Geography and Strategy*, Frank Cass Publishers, London, 1999, pp. 161–77 and *Modern Strategy*, 1999, pp. 109–10; 163–6; 206–27; David G. Hansen, 'The Immutable Importance of Geography', *Parameters: US Army War College Quarterly*, Spring 1997, vol. 27, no. 1, pp. 55–64; and John J. Mearsheimer, *The Tragedy of Great Power Politics*, W. W. Norton & Company, New York, 2001.

plausible fallacy while '*all politics is geopolitics* and . . . *all strategy is geostrategy*'.[260] Gray's statement echoes the 1985 prediction of David Wilkinson that 'the idea that techno-politics will abolish geopolitics by annihilating the significance of space remains seductive and plausible: a fruitful error and a productive vision as well as a dangerous illusion'.[261]

The continuing importance of traditional geopolitics has also been strongly reasserted by the prominent American political scientist, John Mearsheimer. He argues that, in terms of international political competition, it is not information power, but traditional land power that matters most.[262] For Mearsheimer, statecraft and strategy remained defined by organised land power because a state's power is largely embedded in its army and the air and naval forces that support those ground forces. Simply put, the most powerful states possess the most formidable armies, and this eternal truth is ignored at great peril.[263]

Both Gray and Mearsheimer point out that the possible emergence of China as a 21st-century hegemon cannot be understood without recourse to rigorous geopolitical analysis.[264] China is a potential continental–maritime giant and

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[260] Gray, 'The Continued Primacy of Geography', p. 251 and 'Inescapable Geography', in Gray and Sloan, *Geopolitics, Geography and Strategy*, pp. 162–3. Emphasis in original.

[261] David Wilkinson, 'Spykman and Geopolitics', in Zoppo and Zorgbibe, *On Geopolitics: Classical and Nuclear*, p. 110.

[262] Mearsheimer, *The Tragedy of Great Power Politics*, p. 135.

[263] *Ibid*., p. 83.

[264] Gray, 'The Continued Primacy of Geography', p. 258; and Mearsheimer, *The Tragedy of Great Power Politics*, pp. 373–7; 397–402.

represents the Eastern rimland of Mackinder's historical Eurasian Heartland with a long sea coast flanking the principal sea lines of communication of the maritime power of Japan. China has weight and position but, unlike Russia, it is not a predominantly landlocked power. For all the traditional reasons that have defined strategic analysis since the time of Mackinder—size, population, access to the sea, geography and economic growth—China is a growing world force whose ambitions and potential cannot be understood solely in terms of cyberspace analysis and information technology.[265]

Yet, although the 'end of geography' school clearly exaggerates the extent of change, its work serves as a useful reminder that geography represents the grammar of strategy—as opposed to its logic, which is always supplied by policy. The logic of strategy is always political, with geography nearly always playing a conditional role. While overcoming the complexities of the physical world remains fundamental to the conduct of war and statecraft, in strategic calculation one must always be careful to view geography as a conditioning, rather than as a determining, factor. Geography may be a constant, but creative policy can also make it a variable factor in strategic calculation. A misplaced sense of environmental determinism should never be allowed to dictate a narrow and rigid view of strategy and statecraft. As Colin Gray notes, when it comes to the formulation of strategy, geography's proper role is that of a 'team player'.[266]

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265 *Ibid.*

266 Geoffrey Sloan and Colin S. Gray, 'Why Geopolitics?', in Gray and Sloan, *Geopolitics, Geography and Strategy*, pp. 2–3; Gray, 'Inescapable Geography', p. 171 and 'Geography and Grand Strategy', pp. 311; 319.

Significantly, most modern geographers tend to reject geographical determinism in favour of 'environmental possibilism'—that is, the notion that there is an essential interaction between geographical milieu, policy and strategy. Seen from the perspective of environmental possibilism, geography represents a source of both limitation and opportunity for statecraft and strategy.[267] The relationship between geographical environment and the decision-making process is essentially an interactive one and embraces change in both technology and international politics. Geopolitics represent dynamism, not stasis, because '[the meaning of] geography changes as rapidly as ideas and technologies change'.[268]

It is always important to understand that new technology or political innovation may affect the influence that geography exerts over a particular state's strategic thinking. Technology helps to counteract physical barriers, while the formation of alliances serves as a mechanism by which isolated states overcome geographical constraints and extend their ability for military interaction.[269] Indeed, Mackinder's own theory of the Heartland was based on a long-range view of changing technology in relation to geographical conditions since 'the

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[267] See Harold and Margaret Sprout, 'Environmental Factors in the Study of International Politics', in James N. Rosenau (ed.), *International Politics and Foreign Policy: A Reader in Research and Theory*, The Free Press, New York, 1969, pp. 41–56; and Owens, 'In Defense of Classical Geopolitics', pp. 63–73.

[268] Gordon East, 'The Soviet Union and the "Heartland"', in W. G. East and A. E. Moodie (eds), *The Changing World*, Harrap, New York, 1956, p. 434.

[269] These issues are well analysed by Harvey Starr and Randolph M. Siverson, 'Alliances and Geopolitics', *Political Geography Quarterly*, July 1990, vol. 9, no. 3, pp. 232–48.

value of a natural fortress alters . . . as the range of weapons grows'.[270] Thus, while a nation's geographical position or the extent of its landmass may suggest a fortress strategy based on isolation, politics and statecraft may dictate a different course. In the case of the strategic histories of Britain, the United States, Germany and Russia, the interaction of technology with an alliance or series of alliances allowed geographical constraints to be overcome and a more forward strategy to be adopted.[271]

For Britain and the United States, seaborne trade, mastery of the technology of naval warfare and the use of alliances permitted both powers to pursue maritime and continental strategies in the 20th century.[272] In the late 19th century, Wilhelmine Germany sought *Weltmacht* through building an imperial navy based on modern battleships that would allow German strategy to extend beyond its enclosed geographical position in the centre of continental Europe. Similarly, during the Cold War, the development by the Soviet Union of a blue-water nuclear-powered fleet was a clear attempt by the Kremlin to develop a maritime mode of strategy to complement Russia's immense advantages in continental land power.[273]

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[270] Parker, *Mackinder: Geography as an Aid to Statecraft*, p. 229.

[271] Starr and Siverson, 'Alliances and Geopolitics', pp. 232–48. See also Harvey Starr, 'Joining Political and Geographic Perspectives: Geopolitics and International Relations', in Ward, *The New Geopolitics*, pp. 1–9.

[272] Michael Howard, 'The British Way in Warfare: A Reappraisal', in Michael Howard, *The Causes of Wars*, Unwin Paperbacks, London, 1984, pp. 189–207; and Rear Admiral Raja Menon, *Maritime Strategy and Continental Wars*, Frank Cass, London, 1998, pp. 111–36.

[273] Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*, chapters 5–7; Colin S. Gray, *The Leverage of Sea Power: The Strategic*

Land Power and Geography: The Curious Case of Australia

Arguably, Australia's situation for much of the 20th century illustrates how geographical milieu, if not properly understood in terms of an intellectual balance, can lead to an incomplete or flawed understanding of land power. As an island continent, Australia fits all the characteristics of a classic 'trade-dependent maritime state'.[274] Yet, until the late 1990s, the country's approach to the use of land power in its defence policy seldom reflected this geostrategic reality.

Indeed, the most striking feature of Australian strategy for much of the 20th century has been the country's inability to develop its land power within the framework of a maritime strategy. As an island-continent, it is the 'continent' and not the 'island' of Australia that has dominated Australian thinking on the role of land forces. This tendency is illustrated by the importation into 20th-century Australian defence policy of what has been called the Australian Army's 'continental strategy ethos'—an ethos gleaned from front-line service in Europe during World War I.[275]

Advantage of Navies in War, The Free Press, New York, 1992, chapters 2–3; 5–6 and 9.

274 Dennis Rumley, *The Geopolitics of Australia's Regional Relations*, Kluwer Academic Publications, Dordrecht, The Netherlands, 1999, p. 17.

275 Horner, 'The Continental School of Strategic Thought', pp. 42–3; Stewart Woodman and David Horner, 'Land Forces in the Defence of Australia', in David Horner (ed.), *Reshaping the Australian Army: Challenges for the 1990s*, Canberra Papers on Strategy and Defence No. 77, Strategic and Defence Studies Centre, Australian National University, Canberra, 1991, pp. 20–1.

Since 1918, Australian strategists have demonstrated a persistent preference for a continental-style theory of using the army as a force confined to territorial defence. Such a preference was particularly evident in the periods between 1919 and 1939 and between 1972 and 1997. Yet, in times of war and crisis, from World War II in 1939 to the 2003 war in Iraq, it has always been offshore intervention warfare that has dominated Australian military practice.

When it comes to the use of land power in strategy, Australia represents a curious case of strategic dissonance. The country is an inverted example of Wylie's 'dichotomous thinking' in which the relationship between the intrinsic and extrinsic dimensions of land power have not been properly comprehended and balanced. Australia has often embraced an intrinsic theory of land power in a narrow pursuit of a self-contained continental strategy, only to see the practice of land power inevitably become part of the extrinsic dimension of statecraft. The value of the Australian Army has always lain, and continues to lie, in its overseas intervention capacity in conjunction with alliance partners, notably Britain and the United States.[276]

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[276] See Michael Evans, 'Maritime Power and the Australian Army: Lessons from the Past, Implications for the Future', in David Stevens (ed.), *Maritime Power in the 20th Century; The Australian Perspective*, Allen & Unwin, Sydney, 1998, pp. 230–48; 'Strategic Culture and the Australian Way of War: Perspectives', in David Stevens and John Reeve (eds), *Southern Trident, Strategy, History and the Rise of Australian Naval Power*, Allen & Unwin, Sydney, 2001, pp. 83–98; and *From Deakin to Dibb; The Army and the Making of Australian Strategy in the 20th Century*, Working Paper No. 113, Land Warfare Studies Centre, Canberra, June 2001, *passim*.

The frequent dissonance between Australia's declaratory peacetime strategy with regard to land power (continental defence) and its actual strategy in times of war and security crisis (offshore or forward defence) is an excellent illustration of Nicholas Spykman's famous adage, 'geographic facts will not change but their meaning for foreign policy will'.[277] Australia's strategic history demonstrates the reality that geography, considered in intellectual isolation, seldom dictates clear possibilities or choices in strategy. The brief discussion of Australia's geographical milieu and its dissonant conception of land power is an indication of how, in the 21st century, the strategic dilemmas confronting geographical communities and modern territorial states will continue to play a major role in global politics.

Geography, Geopolitics and the Changing Character of the State

Neither geography nor the modern territorial state will disappear at the hands of information technology and globalisation. However, stating this reality should not blind us to the parallel fact that forces emanating from the information revolution and globalisation will affect the practice of war and statecraft. Quite simply, the rise of cyber power and what has been styled 'knowledge warfare' will reshape the way in which traditional combinations of kinetic force are applied in physical space using land, air, sea and outer space capabilities.[278] From this perspective, there can also be little doubt that the political

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[277] Nicholas Spykman, *The Geography of the Peace*, Harcourt, Brace and Company, New York, 1944, p. 7.

[278] For a discussion of these trends see Wayne Michael Hall, *Stray Voltage: War in the Information Age*, Naval Institute Press, Annapolis, MD, 2003.

context in which geography and geopolitics will operate in the new century will be different from that of the 20th century. While physical geography will not disappear, its role may diversify under new technological and political conditions shaped by the phenomenon of interconnectedness.

As scholars such as Zbiegniew Brzezinski, Joseph Nye and Philip Bobbitt have warned, in the first quarter of the 21st century, territorial states may be confronted by the reality that they may possess less freedom of action in shaping global politics.[279] Brzezinski, one of the leading contemporary analysts of geopolitics, has conceded that, for most modern powers, issues of territorial expansion or possession are no longer the sole, or even the main, indicators of international status. While the realities of geography continue to remain vital, new political and technological conditions have seen geopolitics increasingly moving from the regional to the global dimension.[280] Similarly, Nye has argued that 'cyberspace will not replace geographical space and will not abolish state sovereignty, but like the town markets in feudal times, it will coexist with them, and greatly complicate what it means to be a sovereign state or a powerful country'.[281]

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[279] Zbigniew Brzezinski, *The Grand Chessboard: American Primacy and Its Geostrategic Imperatives*, Basic Books, New York, 1997, esp. ch. 2; Joseph S. Nye Jr, 'The Information Revolution and American Soft Power', *Asia-Pacific Review*, September 2002, vol. 9, no. 1, pp. 60–73; and Philip Bobbitt, *The Shield of Achilles: War, Peace and the Course of History*, Alfred A. Knopf, New York, 2002, chapters 10–12 and 24–26.

[280] Brzezinski, *The Grand Chessboard: American Primacy and Its Geostrategic Imperatives*, pp. 37–9.

[281] Nye, 'The Information Revolution and American Soft Power', p. 68.

While the future of the territorial nation-state has generated a wide debate that is too extensive to be dealt with in this study, it is necessary to reinforce the view that the geographically defined state is unlikely to disappear.[282] As Philip Bobbit observes, modern, advanced territorial states are unlikely to be passive observers to the challenge posed to their traditional authority by the rise of non-governmental networks. He notes that, because the defining historical feature of the territorial state has been its ability to wage war and to keep peace, the organisational form that the state system assumes is always closely linked to the changes in the methods of warfare of any given era. For example, it was the development of gunpowder weapons that destroyed feudalism and allowed the rise of the centralised dynastic state by the 17th century. Similarly, it was the evolution of industrial warfare and mass society in the 19th and 20th centuries that destroyed the dynastic state in favour of the nation-state.[283]

At the beginning of the 21st century, the revolutionary military developments of the global information age are transforming the 20th-century nation-state, at least in advanced societies, into what

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[282] The case for the disappearance of the state is made, for example, by Jean-Marie Guèhenno, *The End of the Nation-State*, University of Minnesota Press, Minneapolis, MN, 1995; and Martin van Creveld, *The Rise and Fall of the State*, Cambridge University Press, Cambridge, 1999. For contrary views that stress the state's diversity and adaptability see Robert Cooper, *The Post-Modern State and the World Order*, Demos, London, 1996; *The Breaking of Nations: Order and Chaos in the Twenty-First Century*, Atlantic Books, London, 2003; and Bobbitt, *The Shield of Achilles: War, Peace and the Course of History*, chapters 24–26.

[283] Bobbitt, *The Shield of Achilles: War: Peace and the Course of History*, pp. 75–209; 216–82; 333–47.

Bobbitt describes as a new post-industrial 'market-state'—an emerging model that represents a political response to the strategic challenges of globalisation. Bobbitt identifies three types of evolving market-states in the advanced world: the entrepreneurial or Washington model (symbolised by the United States), the mercantile or Tokyo model (symbolised by Japan) and the managerial or German model (in the European Union).[284]

While these evolving market-states differ in many of their constitutional and socioeconomic features, they share three common geopolitical assumptions. First, emerging market-states appreciate that, in the 21st century, the new challenge for great powers is not securing territory or spreading ideology as it was in the 19th and 20th centuries; it is ensuring global order. As a result, post-industrial market-states increasingly conceive of power in terms of global relations rather than international relations. They view global cooperation as essential in order to control weapons proliferation, transnational terrorism, disease, refugees and environmental catastrophes.[285]

Second, the emerging market-states understand that in the global political economy, the roles of territory and raw materials have declined relative to the roles of information technology and computation systems. Third, and perhaps most important of all, advanced nation-states in transition towards market-states increasingly realise that globalisation has diversified the character, if not the reality, of geography for statecraft. Faced by a spectrum of global threats that often transcend geographical boundaries and threaten social infrastructure rather than territorial frontiers, many advanced

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[284] *Ibid.*, pp. 283–342.
[285] *Ibid*., pp. 283–342; 667–714; 776–97.

states are rethinking their defence and security requirements.[286] Bobbit sums up the challenge as follows:

> We are at the moment in world affairs when the essential ideas that govern statecraft must change. For five centuries it has taken the resources of a state to destroy another state; only states could muster the huge revenues, conscript the vast armies, and equip the divisions required to threaten the survival of other states . . . This is no longer true, owing to advances in international telecommunications, rapid computation, and weapons of mass destruction. The change in statecraft that will accompany these developments will be as profound as any that the State has thus far undergone.[287]

If, then, under new conditions of globalism, transnational threats and emerging market-states the importance of geography does not disappear but diversifies, what are the implications for the school of continental strategy and for the role of land power in war and geopolitics in the future?

The Future of Land Power: The Relevance of the Continental School of Strategy in the 21st Century

The intellectual challenge facing military theorists schooled in the continental tradition of land power in the 21st century is threefold. They must simultaneously understand the philosophical character of the age, master the dynamics of a complex and expanding battlespace, and develop a keen appreciation of the essential social and political characteristics of war. Land power theorists must seek to synthesise relevant teachings from the continental school of strategy with the new conditions of 21st-century conflict. In this respect, it is useful to

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[286] *Ibid*., pp. 776–822.
[287] *Ibid*., p. xxi.

recall Clausewitz's advice that 'the conduct of war branches out in almost all directions and has no definite limits; while any system, any model has the finite nature of a synthesis'.[288]

With the above in mind, there are two reasons why the theory of war drawn from the continental heritage and the practical realities of geopolitics will continue to shape and influence the contours of armed conflict in the new millennium. The first reason is the fundamental importance of land forces in the theory and practice of modern joint warfare, in which continental, maritime and aerospace strategies play complementary roles. Second, the increasing role that effects-based strategies are likely to play in war assumes a sophisticated understanding of the roles that land power, military force and geography play in the arena of geopolitics.

The Role of Land Power in Joint Warfare

In 1989, Carl Builder wrote, 'the isolation of warfare to the land is now credible only at the most primitive levels in situations in which both sides have no other resources'.[289] Today, at the beginning of the 21st century, military thought is dominated by questions of offensive power projection, battlespace dominance, long-range precision strike and information operations using the resources of land, air, sea and space forces in joint operations. Joint warfare has been greatly facilitated by the technology of the information revolution—including UAVs, GPS and ISTAR systems—which have enabled improved integration of precision fires with manoeuvre. Increasingly, advanced joint warfare is likely to be

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[288] Clausewitz, *On War*, p. 134.

[289] Builder, *The Masks of War: American Military Styles in Strategy and Analysis*, p. 90.

based on networked situational awareness in which surveillance capabilities will be electronically connected to strike forces in a web of 'sensors to shooters'.[290]

As a result, in many future missions, separate land, maritime and air components are likely to be seen as providers of capabilities and as tactical–operational contributors to overall strategic success. Moreover, most 21st-century military mission commanders will be joint commanders controlling specifically packaged multi-service forces with appropriately designed headquarters. The implications of joint warfare in the first quarter of the 21st century have been well described by Bailey:

> Precision matched with other emerging technologies such as information networks and robotics will expand the battlespace and alter the relationships between the arms and services. Joint activities will become ever more integrated in the coming decades, to the extent that the term joint, which entails cooperation between separate entities, may come to seem an underestimation of the fundamental new relationships.[291]

The evolving interdependent dynamics of war in the new millennium means that it is becoming increasingly unrealistic to discuss land warfare in isolation. Land forces must be seen

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[290] See Michael Evans, 'From Kadesh to Kandahar: Military Theory and the Future of War', *Naval War College Review*, Summer 2003, vol. XVI, no. 3, pp. 132–50 and 'Clausewitz's Chameleon: Military Theory and Practice in the Early 21st Century', in Michael Evans, Russell Parkin and Alan Ryan (eds), *Future Armies, Future Challenges: Land Warfare in the Information Age*, Allen & Unwin, Sydney, 2004, pp. 26–46; and Brigadier R. A. M. S. Melvin, 'Continuity and Change: How British Army Doctrine is Evolving to Match the Balanced Force', *RUSI Journal*, August 2002, vol. 147, no. 4, pp. 39–40.

[291] Bailey, *Field Artillery and Firepower*, p. 537.

in the context of their key role in joint military operations.[292] For armies, joint warfare presents both an opportunity and a challenge. Joint warfare is an opportunity because, as one analyst has pointed out, 'land combat can be prosecuted only as part of a collective effort sustained principally by the firepower, transport, intelligence, communications and logistics provided by air and naval forces'.[293]

On the other hand, joint operations are a challenge because military practitioners, long schooled in the strategy of annihilation inherited from the continental school of strategy, must adapt their beliefs in linear engagements in applying decisive force. In 1991, during the First Gulf War, the fate of Iraqi forces at the battle of Khafji showed how linear massing risks annihilation from precision attack. In a metaphorical sense, soldiers must make a post-Jominian transition from wielding broadswords and lances in single service and linear geometry of 'big-unit war' to employing rapiers and stilettos in nonlinear joint war. Land component commanders will have to face the reality of complexity, joint force packaging and of a shift in focus 'from attrition-based mass to purpose-based distribution, from apocalyptic, episodic fires to high-fidelity, continuous sensors and from deliberate risk aversion to informed risk-taking'.[294]

In some respects, in the West, the increasing use of the term *land power* to describe the use of ground forces across a spectrum of military activity encompassing peace, crisis and war reflects the influence of the rise of a joint warfighting community. The term

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[292] Melvin, 'Continuity and Change: How British Army Doctrine is Evolving to Match the Balanced Force', pp. 39–40.

[293] Scales, *Yellow Smoke*, p. xiii.

[294] Leonhard, 'Factors of Conflict in the Early 21st Century', p. 35.

land power captures the aspiration of many modern armies to be agile and versatile—as well as politically relevant—in the multi-service strategic environment of the early 21st century. Those that subscribe to the concept of land power recognise the importance of history and geography as a means of understanding the requirements of joint operations.[295]

In the early 21st century, the rise of joint operations based on new battlespace technology symbolises a deep transition in the character of modern warfare. The end of the 20th century saw the demise of an era in armed conflict. From 1914 until 1991, through two world wars and the Cold War, the troika of mass military forces, territorial defence and industrial mobilisation

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[295] See for instance Johnsen, *Redefining Land Power for the 21st Century*, *passim.*; Yarger, 'Land Power: Looking Toward the Future through Green Lens', pp. 22–30; John Matsumura *et al.*, *Lightning over Water: Sharpening America's Light Forces for Rapid Reaction Missions*, RAND, Arroyo, Santa Monica, CA, 2000, *passim.*; Conrad C. Crane, *Landpower and Crises: Army Roles and Missions in Smaller Scale Contingencies during the 1990s*, Strategic Studies Institute, US Army War College, Carlisle, PA, January 2001, esp. pp. 1–34; Eric Peltz, John M. Halliday and Aimee Bower, *Speed and Power: Toward an Expeditionary Army*, Arroyo Centre, RAND, Santa Monica, CA, 2003; Lynne E. Davis and Jeremy Shapiro (eds), *The US Army and the New National Security Strategy*, RAND, Arroyo Center, Santa Monica, CA, 2003; Michael A. Vane and Robert M. Toguchi, *The Enduring Relevance of Landpower: Flexibility and Adaptability for Joint Campaigns*, Land Warfare Paper No. 44, The Institute of Land Warfare, Association of the United States Army, Arlington, VA, October 2003; and Alan Ryan, 'Early 21st-century Armies and the Challenge of Unrestricted Warfare', in Evans, Parkin and Ryan, *Future Armies, Future Challenges: Land Warfare in the Information Age*, pp. 293–307.

were dominant factors in the formulation of strategy.[296] However, in the decade following the end of the Cold War into the 21st century, the conjunction of globalisation and the information revolution eroded the significance of this troika.

The characteristics of the new security environment are well summed up by Brian Michael Jenkins when he writes, 'the enemies of yesterday were static, predictable, homogeneous, rigid, hierarchical, and resistant to change. The enemies of today are dynamic, unpredictable, diverse, fluid, networked, and constantly evolving'.[297] Under changed political and technological conditions, global threats—including state failure, rapid weapons proliferation, and mass-casualty terrorism—have created merging modes of conventional and unconventional conflict.[298] In the early 21st century, meeting these types of threats requires the West to adopt different strategies and develop innovative force structures from those of the late 20th century.

In recent years, there has been a transition away from territorial defence towards expeditionary operations. As Robert Fry has put it,

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296 For overviews see Bobbitt, *The Shield of Achilles: War, Peace and the Course of History*, chapters 10–12, 24–26; and Eric Hobsbawm, 'War and Peace in the 20th Century', *London Review of Books*, 21 February 2002, pp. 16–18.

297 Brian Michael Jenkins, 'Redefining the Enemy', *RAND Review*, Spring 2004, vol. 28, no. 1, p. 17.

298 See Robert L. Pfaltzgraff Jr and Richard H. Shultz Jr, 'Future Actors in a Changing Security Environment', in Robert L. Pfaltzgraff Jr and Richard H. Shultz Jr (eds), *War in the Information Age: New Challenges for US Security Policy*, Brassey's, Washington, DC, 1997, ch. 1; and Jean-Marie Guèhenno, 'The Impact of Globalisation on Strategy', *Survival*, Winter 1998–99, vol. 40, no. 4, pp. 5–19.

> We [in the West] are now emancipated from the millstone of [20th century] territorial defence beyond the irreducible requirement to secure the home base . . . Future operations will be expeditionary and thus underwritten by a capacity for the projection and sustainment of power to areas of vital interest.[299]

The decreasing importance of internal territorial defence and raw materials in favour of an increasing role for international computation and communications infrastructures has changed the calculus for the use of military force. The age of massive armies has given way to high-speed joint forces to fight throughout the battlespace theatre in distributed operations. A new calculus has emerged in which the waging of military operations requires a flexible mixture of sophisticated weapons systems and force structures for use in intervention missions in ambiguous environments.[300]

In acknowledging these trends, however, it is vital to note that the relative decline of 20th-century-style mass armies and national strategic geography should not be equated with the end of the land-based continental school of strategy. The key issue to grasp is not that land power has become unimportant in strategy, but that, in an age of globalisation, organising Western militaries for national territorial defence as a primary role has declined *relative* to the use of military force. Increasingly, leading Western states are moving towards a new strategic paradigm based on a mixture of agile and flexible expeditionary

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[299] Fry, 'End of the Continental Century', p. 18.

[300] Bobbitt, *The Shield of Achilles: War, Peace and the Course of History*, pp. 302–14; 310–42; 800–16.

operations and defensive, vulnerability-based homeland security strategies designed to defend critical infrastructures.[301]

As a result, the emphasis in Western land power—in the United States, Britain and France—has shifted away from large-scale territorial defence along the lines of securing the NATO Central Front towards supplying mobile, highly trained ground forces for joint expeditionary operations and for the protection of homeland security infrastructure. Even Germany, a country whose World War II past has created a cautious and narrow emphasis on national territorial defence, has begun to move towards a wider definition of defence policy based on 'safeguarding [German] security wherever it is in jeopardy'.[302] As a result, the *Bundeswehr* is gradually being transformed into an interventionist force, with the Federal Minister of Defence, Peter Struck, noting that the German military must prepare for a new era of security in which the 'territorial defence [of Germany] has become an unlikely option'.[303]

For leading Western armies, the strategic trends of the new millennium dictate new force structures and operational doctrine for power projection across a spectrum of conflict. In many advanced armies, such as those of the United States, Britain and France, force structure has become more modular and based on the need to achieve rapid taskforce organisation

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[301] Huba Wass de Czege and Richard Hart Sinnreich, *Conceptual Foundations of a Transformed US Army*, Land Warfare Paper No. 40, The Institute of Land Warfare, Association of the United States Army, Arlington, VA, March 2002, pp. 5–27.

[302] Bastian Giegereich, 'Mugged by Reality? German Defense in Light of the 2003 Policy Guidelines', Düsseldorfer Institut für Außen- und Sicherheitspolitik, October 2003, at <www.dlas-online.org>, p. 7.

[303] *Ibid*., p. 8.

to provide a 'golf bag', or variety, of military capabilities. The trend is increasingly towards the supply of ground force components in multinational joint taskforces with a reduced level of headquarters—from corps, division and brigade to force and formation. As one analyst has noted, 'the first rule of warfighting is always to organise as you intend to fight'.[304] In this way, armies can address questions of strategic mobility and operational effectiveness as well as the key problem of reconciling weight against protection in the projection of force over distance.[305]

Recent doctrines such as the US military's 'operational manoeuvre from strategic distance' place a premium on advanced military establishments possessing a sophisticated understanding of time, space, terrain and logistics across all geographical environments.[306] Such understanding is crucial given that the future spectrum of conflict is likely to be broad, representing a 'high–low' mix of interstate and non-state challenges in which conventional, unconventional, symmetric

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304 Scales, *Yellow Smoke*, p. 149.

305 Evans, 'From Kadesh to Kandahar: Military Theory and the Future of War', p. 142; Melvin, 'Continuity and Change: How British Army Doctrine is Evolving to Match the Balanced Force', pp. 42–4. See also Colonel Dick Applegate, 'Towards the Future Army', in Brian Bond and Mungo Melvin (eds), *The Nature of Future Conflict: Implications for Force Structure*, Occasional Paper No. 36, Strategic and Combat Studies Institute, Camberley, September 1998, pp. 77–91.

306 Huba Wass de Czege and Zbigniew M. Majchrzak, 'Enabling Operational Maneuver from Strategic Distances', *Military Review*, May–June 2002, vol. 82, no. 3, pp. 16–20. See also Huba Wass de Czege and Antulio J. Echevarria II, 'Insights for a Power-Projection Army', *Military Review*, May–June 2000, vol. 80, no. 3, pp. 3–11.

and asymmetric warfare modes may merge and interact simultaneously in time and space.[307]

In the new joint expeditionary context of the 21st century, Western armies must be prepared to fight skillfully in any geographical milieu and over any tactical topography, and to do so as part of a joint force. Paradoxically, then, in the West, as the role of national geography declines as a determinant of strategic organisation and military force structure, the roles of international geography and knowledge of tactical topography for expeditionary warfare increase in importance.

Alongside the decline of the mass, territorial army, the technology that has created the joint and nonlinear battlespace is gradually transforming many aspects of ground warfare. Arguably, the main difficulty facing Western armies in the new millennium is the need to balance resources and weapons systems for both the close and deep battle and to retain an appropriate combined-arms capability. This balance is particularly true with respect to troop movement and activity in the battlespace within the framework of deep, close and rear operations. Space-based reconnaissance systems and stand-off missile weapons mean that the framework of deep, close and rear battle—like the levels of war—have become compressed. Close combat may be encountered in deep operations—for instance as part of a deep special forces or air–land manoeuvre operation, or during a deep attack by armoured forces. A close fight may also occur in a rear security situation in which friendly forces are attacked by guerrillas or terrorists. In short,

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[307] Evans, 'From Kadesh to Kandahar: Military Theory and the Future of War', pp. 133–7;144–7.

the potential for multiple close fights inside the zone of deep battle has increased dramatically because of nonlinearity.[308]

As recent operations in Afghanistan in 2001–02 and the campaign to topple the Ba'ath regime in Iraq in 2003 have demonstrated, ground forces are crucial to joint operations. Land component formations may now be smaller and may operate in more widely distributed, nonlinear operations with decentralised command and control, but they have become faster and more lethal across the battlespace.[309] Advanced information systems and long-range precision munitions enable greater coordination for military units to exploit stand-off fires at longer range and then to swarm or raid against an opponent.

The combination of surveillance systems (leading to situational awareness dominance) and of paralysing precision strikes permits land forces to reshape their movement to contact in area control of the battlespace. As a result, mounted close-combat forces are capable of delivering coordinated fires and

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[308] Melvin, 'Continuity and Change: How British Army Doctrine is Evolving to Match the Balanced Force', pp. 39–40; and Applegate, 'Towards the Future Army', in Bond and Melvin, *The Nature of Future Conflict: Implications for Force Structure*, pp. 77–91.

[309] See Stephen Biddle, *Afghanistan and the Future of Warfare: Implications for Army and Defense Policy*, Strategic Studies Institute, US Army War College, Carlisle, PA, November 2002; Anthony H. Cordesman, *The Iraq War: Strategy, Tactics and Military Lessons*, Center for Strategic and International Studies, Washington, DC, 2003, esp. chapters 1 and 7; Andrew F. Krepinevich, *Operation Iraqi Freedom: A First-Blush Assessment*, Center for Strategic and Budgetary Assessment, Washington, DC, 2003; and United Kingdom Ministry of Defence, *Operations in Iraq: First Reflections*, Ministry of Defence, London, August 2003.

quick manoeuvre throughout an entire area of operations, thus turning many engagements into ambush-style encounters using precision manoeuvre.[310]

Moreover, as linear mass declines relative to territorial space, the role and responsibility of individual soldiers expands proportionally. Increasingly, the trend in advanced warfare is towards the evolution of manoeuvre at the company level and even below where 'strategic corporals' may operate—soldiers in the field who command weapons of great lethality and who may direct long-range precision fires in order to shape the deep battle. The mixture of new battlespace conditions alongside omnipresent media images suggests that the actions of junior commanders may have greater importance in the future. The electronic blizzard created by modern communications systems and instantaneous television images mean that the political impact of tactical decision-making may affect strategic outcomes. These complexities present difficult challenges for both operational and strategic commanders seeking to control the tempo of military events.

For joint expeditionary warfare to be waged successfully by advanced Western powers, the core competencies of land, sea and aerospace forces must first be assured. For this reason, knowledge of continental strategy and land power will remain fundamental to the conduct of the art of war in the future.[311]

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[310] Huba Wass de Czege, 'Maneuver in the Information Age', pp. 203–4. See also William A. Hartzog and Susan Canedy, 'Operations in the Information Age', in Pfaltzgraff and Shultz Jr, *War in the Information Age: New Challenges for US Security Policy*, pp. 175–85.

[311] Vane and Toguchi, *The Enduring Relevance of Landpower: Flexibility and Adaptability for Joint Campaigns*, pp. 4–8.

Despite the pervasive influence of stealthy technology, signal intelligence and precision weapons in joint warfare, land power is likely to maintain its traditional role as the force of ultimate decision. As Brian Holden Reid puts it, 'military power remains the central, indispensable means by which wars are won and the enemy's armed forces are overthrown'.[312]

While new technologies will help to define future air–ground tactics in long-range or deep attack, they are likely to be of limited use in pervasive close operations in the volume of the battlespace—especially in complex terrain, from tropical jungle to urban city. Here, the oldest form of statecraft known to the human race—the infantryman supported by balanced combined arms (armour, artillery, engineers and close air support)—must be employed to finish off stubborn adversaries and to bring decision in battle.

Ultimately, the use of land power remains the most conclusive instrument of strategy and 'whether or not land constitutes the principal geographical medium on which combat is waged, strategic effect must ultimately have its way in a territorial context'.[313] Only land forces provide presence, occupation, possession or control of physical space in modern joint conflict. Such realities ensure that the school of continental

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[312] Brian Holden Reid, 'Introduction', in Brian Holden Reid (ed.), *Military Power: Land Warfare in Theory and Practice*, Frank Cass, London, 1997, pp. 1–2.

[313] Gray, *Modern Strategy*, p. 207.

strategy will remain intrinsic to the evolving art of joint warfare in the 21st century.[314]

Land Power and Effects-based Operations

The second reason for continental strategy's continued relevance is connected to the emerging theory of effects-based operations in the West's approach to joint warfare. What is meant by effects-based operations? Such operations focus on the vital questions of how to integrate the fire and manoeuvre of land, sea and air forces in joint warfare across the three levels of war: tactical, operational and strategic. Effects-based operations are concerned with how best to link political objectives to a mosaic of military actions in order to produce distinctive strategic outcomes.

Effects may be kinetic (attacks against an adversary's capabilities) or cognitive (attacks against an adversary's will), but the two types of effect are closely interrelated. In an effects-based philosophy, combatants in war are viewed not as linear, Jominian opponents, but as 'complex adaptive systems'. Adversaries must be engaged on multiple levels—military, political, technological, cultural, and organisational—if meaningful strategic-level success is to be ensured. Integration of political–military effort is a central feature of an effects philosophy.[315]

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[314] Vane and Toguchi, *The Enduring Relevance of Landpower: Flexibility and Adaptability for Joint Campaigns*, p. 6.

[315] For useful discussions of effects-based operations in joint warfare see Dennis J. Gleeson *et al.*, *New Perspectives on Effects-Based Operations: Annotated Briefing*, Institute for Defense Analyses, Alexandra, VA, June 2001; Paul K. Davis, *Effects-Based Operations (EBO): A Grand Challenge for the Analytical Community*, RAND, Santa Monica, CA, 2001; Price T. Bingham, 'Seeking Synergy: Joint Effects-Based Operations', *Joint Force*

In an age in which capabilities can be networked to achieve commonality among force elements in the battlespace, an effects philosophy suggests that war must be viewed not as a closed or single battlefield system, but as an open system with dynamic components that continuously interact.[316] The theory of effects-based operations draws on evolving ideas from chaos theory. The central assumption of chaos theory is that human organisations are systems that contain a complex order determined by interrelationships and interactions in which the sum of the whole is greater than its parts.[317]

Quarterly, Spring 2002, pp. 52–9; Williamson Murray (ed.), *Transformation Concepts for National Security in the 21st Century*, Strategic Studies Institute, US Army War College, Carlisle, PA, September 2002, chapters 3–5; Edward C. Mann III, Gary Endersby and Thomas R. Searle, *Thinking Effects: Effects-Based Methodology for Joint Operations*, CADRE Paper No. 15, Air University Press, Maxwell Air Force Base, AL, October 2002; Major Christopher D. Kolenda, 'Transforming How We Fight: A Conceptual Approach', *Naval War College Review*, Spring 2003, vol. LVI, no. 2, pp. 100–21; and Edward A. Smith, *Effects Based Operations: Applying Network Centric Warfare in Peace, Crisis and War*, Department of Defense Command and Control Research Program, Information Age Transformation Series, Washington, DC, November 2002.

316 Kolenda, 'Transforming How We Fight: A Conceptual Approach', pp. 101–2; 104–8; and Echevarria, *Rapid Decisive Operations: An Assumptions-based Critique*, pp. 14–18.

317 See Alan Beyerchen, 'Clausewitz, Nonlinearity and the Unpredictability of War', *International Security*, Winter 1992/93, vol. 17, no. 3, pp. 59–90; James Gleick, *Chaos: Making a New Science*, Viking, New York, 1988; and Glenn E. James, *Chaos Theory: The Essentials for Military Application*, Newport Paper 10, Naval War College Press, Newport, RI, 1996.

In terms of war, the linear battles of the classical age from Alexander to Napoleon represented the workings of military systems designed to respond to the single threat of mass combat in the field. In contrast, the shift in military theory away from the organisation of tactical–operational numerical mass towards the idea of a concentration of tactical–operational effects is recognition of nonlinearity and complexity. This development is especially significant with regard to the ability to synchronise the cumulative effects of operations from air, sea and land.[318]

Effects-based operations, then, owe much to a realisation that the military organisations of the modern era represent nonlinear 'complex adaptive systems' that depend on multiple political, strategic and operational interactions for effectiveness. In war, an attack on these levels of interaction by one combatant increases the complexity of military response for the adversary and weakens the latter's system as a whole. In modern networked conditions, confining armed conflict to the single dimension of the linear battlefield is not possible because dynamic interaction is the defining feature of a complex adaptive system.[319]

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[318] Michael Russell Rip and James M. Hasik, *The Precision Revolution: GPS and the Future of Aerial Warfare*, Naval Institute Press, Annapolis, MD, 2002, chapters 11–13; Ted Hooton, 'Naval Firepower Comes of Age', *Jane's Defence Weekly*, 13 November 2002, vol. 38, no. 20, pp. 17–28; and Vane and Toguchi, *The Enduring Relevance of Landpower: Flexibility and Adaptability for Joint Campaigns*, pp. 2–4; 8–9.

[319] Murray Gell-Mann, 'The Simple and the Complex', in David S. Alberts and Thomas J. Czerwinski (eds), *Complexity, Global Politics and National Security*, National Defense University Press, Washington, DC, 1997, pp. 3–28; and James Moffat, *Complexity Theory and*

Effects-based operations are about gaining a 'complexity advantage' by linking 'ends, ways and means'—that is, coordinating objectives with actions and instruments. Their aim is to ensure that military actions yield the appropriate strategic effects and ensure expected political outcomes within the framework of a national security or a 'whole-of-government' approach to strategy.[320] The strength of an effects-based approach is its integration of objectives and its potential to provide a conceptual methodology at the strategic level that can be applied across the increasingly complex 21st-century spectrum of conflict. The following description captures the concept's holistic character:

> Effects-based operations are operations conceived and planned in a systems framework that considers the full range of direct, indirect, and cascading effects, which may—with different degrees of probability—be achieved by the application of military, diplomatic, psychological and economic instruments.[321]

Unlike objectives-based planning, which seldom concentrates on interdependence, effects-based operations focus on complex interactions and attempt to adapt rapidly to changing conditions.[322] In objectives-based planning, forward planning can be used to orchestrate force, but often at the expense of flexibility

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Network Centric Warfare, Department of Defense Command and Control Research Program, Information Age Transformation Series, Washington DC, September 2003, chapters 1–2.

320 Kolenda, 'Transforming How We Fight: A Conceptual Approach', p. 111; and Gleeson *et al.*, *New Perspectives on Effects-Based Operations: Annotated Briefing*, p. 6.

321 Davis, *Effects-Based Operations (EBO): A Grand Challenge for the Analytical Community*, p. 7.

322 Mann, Endersby and Searle, *Thinking Effects: Effects-Based Methodology for Joint Operations*, pp. 48–55.

and tactical manoeuvre. In contrast, effects-based operations are more holistic. Such operations are intellectually challenging in that they demand a clear understanding of operational–strategic requirements by military and political leaders.

The civil–military leadership must understand the context of a particular conflict, and integrate and synchronise the use of various instruments of military and non-military power to achieve national policy aims. As Desmond Saunders-Newton and Aaron B. Frank point out:

> The [effects-based operations] concept has the potential to transform military planning and operations by establishing linkages between actions and intended effects. The lynchpin of this capability will not be the development of weapons systems but the ability to analyse political and military situations so that force can be used in the most effective fashion to achieve desired results.[323]

Here, an understanding of the extrinsic dimension of the continental school with a focus on the politico-strategic role of land power may become crucial.

An effects-based approach requires net assessment of the strategic, operational and tactical environments, and involves a comprehensive mastery of the art and science of war and knowledge of the interaction of politics, diplomacy, information and economics. Net assessment is then linked to reassessment, adjustment and action in a continual analytical

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[323] Desmond Saunders-Newton and Aaron B. Frank, 'Effects-Based Operations: Building the Analytic Tools', *Defense Horizons*, October 2002, no. 19, p. 13.

process designed to keep operations oriented on the original aim rather than on the attrition of enemy targets.[324]

Although the theory of effects-based operations is in its infancy, it does offer the school of continental strategy three potential benefits in the future. First, effects-based operations give land power direct access to a world of joint warfare that is distinguished by a broad and systemic view of warfare rather than by the sterility of targeting and technological wargaming. Effects-based operations do not overturn Clausewitz as the master theorist of the continental school of strategy or, indeed, of war as a social phenomenon.

On the contrary, the teachings of Clausewitz on the political and philosophical nature of war remain eternal. The timeless character of Clausewitz's work for students of war has been highlighted by the work of Alan Beyerchen, who has argued convincingly that the Prussian master saw war as a profoundly complex and nonlinear phenomenon. It is the dominance of linear thinking in the military profession that has been perhaps the main reason that many soldiers find Clausewitz difficult to understand.[325] Clausewitz's notions of friction, chance and war

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[324] Gleeson *et al*., *New Perspectives on Effects-Based Operations: Annotated Briefing*, pp. 8–10; 37–8; Colonel Gary H. Cheek, 'Effects-Based Operations: The End of Dominant Maneuver?' and Lieutenant Colonel Brett T. Williams, 'Effects-Based Operations: Theory, Application and the Role of Air Power', in Murray, *Transformation Concepts for National Security in the 21st Century*, pp. 73–100; 133–66.

[325] Beyerchen, 'Clausewitz, Nonlinearity, and the Unpredictability of War', pp. 87–8. See also Tom Czerwinski, *Coping with the Bounds: Speculations on Nonlinearity in Military Affairs*, Department of

as a 'true chameleon' infuse his work, *On War*, with a timeless relevance.[326] In Beyerchen's words:

> Interconnectedness and context, interaction, chance, complexity, indistinct boundaries, feedback effects and so on, all leading [*sic*] to analytical unpredictability—it is no wonder that *On War* has confused and disappointed those looking for a theory of war modeled on the success of Newtonian mechanics.[327]

Indeed, one writer has argued that effects-based operations are philosophically linked to Clausewitz's centre of gravity theory, since the latter seeks the collapse of an enemy through effects rather than capabilities.[328]

Second, effects-based thinking, with its focus on direct and indirect attack and on the psychological as well as the physical dimension of conflict, has much in common with theories of manoeuvre warfare and the indirect approach. In short, an effects-based approach connects directly with the works of such military theorists as Sun Tzu, B. H. Liddell Hart, André Beaufre, J. F. C. Fuller and John Boyd on paralysis, shock and

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Defense Command and Control Research Program, Washington, DC, 1998, chapters 1–3.

326 For discussion of Clausewitz's continuing relevance see Barry D. Watts, *Clausewitzian Friction and Future War*, McNair Paper 52, Institute for National Strategic Studies, National Defense University, Washington, DC, October 1996; and Stephen J. Cimbala, *Clausewitz and Chaos: Friction in War and Military Policy*, Praeger, Westport, CT, 2001.

327 Beyerchen, 'Clausewitz, Nonlinearity, and the Unpredictability of War', p. 82.

328 Antulio J. Echevarria II, *Clausewitz's Center of Gravity: Changing Our Warfighting Doctrine—Again!*, Strategic Studies Institute, US Army War College, Carlisle, PA, September 2002, pp. 12–13.

dislocation of the enemy.[329] Third, such operations, with their focus on 'whole of government' involvement, have the potential to ensure that, in the formulation of strategy, there is a realistic appreciation of the age-old value of land power as an instrument of grand strategy and geopolitics.

As the Swiss military thinker, Gustav Däniker, has argued, in the complex missions of the future there must be a focus on integrated politico-military action to the point where there is 'strategic co-responsibility of the military leadership'. Such co-responsibility should go beyond questions of combat capability and campaign victory into a 'sustainable strategy' for both conflict and post-conflict phases, based on a careful assessment of likely politico-military requirements.[330]

Yet, theories of effects-based operations have often been viewed with a degree of scepticism, if not hostility, by land warfare specialists. This situation has arisen because effects-based thinking began in the 1990s in American air power strategy. As a result, its early development focused on the use of discrete air power operations rather than the use of joint operations.[331] Because conceptual thinking in military affairs has not matched technological advances, effects-based thinking has often been subsumed in technocentric ideas about weapons

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[329] Bingham, 'Seeking Synergy: Joint Effects-Based Operations', p. 53; and Hall, *Stray Voltage: War in the Information Age*, pp. 43–4.

[330] Gustav Däniker, *The Guardian Soldier: On the Nature and Use of Future Armed Forces*, United Nations Institute for Disarmanent Research, Geneva, 1995, p. 125.

[331] For an influential aerosopace view of the effects-approach see Brigadier General David A. Deptula, *Effects-Based Operations: Change in the Nature of Warfare*, Aerospace Education Foundation, Arlington, VA, 2001.

systems, technical targeting and missile geometry. Too often in the 1990s, effects-based operations viewed an enemy as an array of targets to be serviced by aerial technology and not as a 'complex adaptive system' whose political defeat demands a continuous cycle of analysis, assessment, planning and execution at the strategic and operational levels of war.[332]

As a result, throughout the decade of the 1990s this approach led to the dominance in the United States of 'cruise missile diplomacy' aimed at creating strategic effect. Strike-based strategies were employed against Western adversaries in countries as diverse as Iraq, Serbia and Afghanistan. As Michael Russell Rip and James M. Hasik have noted in a major study of the use of precision munitions, reliance on cruise missiles ultimately proved to be of inconclusive value against targeted countries. Missile strikes in the 1990s against Taliban Afghanistan (which harboured the al-Qa'ida movement) and Saddam Hussein's Ba'athist Iraq had only a marginal effect on the political behaviour of such rogue regimes.[333]

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[332] Williamson Murray, 'Transformation: Volume II', in Murray, *Transformation Concepts for National Security in the 21st Century*, p. 4; and Kolenda, 'Transforming How We Fight: A Conceptual Approach', p. 111. For a critique of targeting theory based on information superiority see Lieutenant Colonel H. R. McMaster, *Crack in the Foundation: Defense Transformation and the Underlying Assumption of Dominant Knowledge in Future War*, Center for Strategic Leadership, US Army War College, Carlisle, PA, November 2003.

[333] Rip and Hasik, *The Precision Revolution: GPS and the Future of Aerial Warfare*, esp. ch. 13.

Indeed, such a one-dimensional approach to the search for effect in military strategy led to the paradox that physical destruction failed to yield political decision. Reliance on aerial strike revealed a flawed understanding both of appropriate doctrine and of the proper relationship between military means and strategic ends.[334] Nearly all the successes in aerial precision attack during the 1990s were achieved against fixed sites. As was demonstrated in Kosovo, conclusive results proved evasive against determined enemies that were skilled in asymmetric responses such as mobility, camouflage, dispersal and deception.

The conclusion reached by Rip and Hasik was, 'if politicians are unwilling to send soldiers to hunt down evasive targets, their [aerial precision] weapons may be found to be powerless against meaningful, mobile targets'.[335] The instant cruise missile wars of the 1990s were, as Manuel Castells has pointed out, the privilege of the technologically dominant West. They obscured the reality that most armed conflicts occurring were asymmetric 'slow-motion, debilitating wars' not susceptible to aerial solutions.[336]

It is important to note that the above limitations in achieving strategic decision have more to do with the shortcomings of air power doctrine in the 1990s than with the development of effects-based operations for joint warfare. The future of air power lies in the realm of joint rather than independent warfare—in supporting land and sea power as, to quote

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[334] *Ibid*., p. 423.
[335] *Ibid.*, p. 421.
[336] Castells, *The Information Age: Economy, Society and Culture, Vol. 1: The Rise of the Network Society*, p. 490.

Mackinder, 'amphibious cavalry'.[337] In particular, as one British analyst has noted, the land–air interface has become crucial to the unleashing of combat power in joint military operations:

> The 1990–91 Gulf War and subsequent operations in Kosovo could well prove to be the last vestiges of linear and phased operations engineered to accommodate single-Service capabilities. What happened in Afghanistan in 2001 and what appears to have happened very recently in Iraq shows that much more than incremental improvements are possible when information is used to achieve joint firepower.[338]

Another writer has observed, 'the notion that standoff precision munitions alone can generate and produce the psychological collapse of the enemy is at odds with the idea of adaptive complexity'.[339]

Indeed, the greatest potential of effects-based operations probably lies in what, in this study, has been called the extrinsic dimension of warfare. In the higher strategic realm, political objectives and military action must converge, and the joint use of land, air and sea forces must be carefully assessed as components of national security.[340] From this perspective, 'each geographically tailored form of military power contributes to the course and outcome of the war in the super-

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337 Parker, *Western Geopolitical Thought in the Twentieth Century*, p. 24.

338 Air Vice Marshal Iain McNicoll, 'Effects Based Air Operations: Air Command and Control and the Nature of the Emerging Battlespace', *RUSI Journal*, June 2003, vol. 148, no. 3, p. 44.

339 Kolenda, 'Transforming How We Fight: A Conceptual Approach', p. 111.

340 Williamson Murray, 'Transformation: Volume II', in Murray, *Transformation Concepts for National Security in the 21st Century*, p. 6.

currency of *strategic* effect'.[341] In short, effects should not be linked to a mystical faith in air power and precision strike, but to broader notions of gaining strategic superiority over adversaries by the intelligent use of a mixture of military environmental capabilities in a holistic manner.

Modern effects-based thinking has now moved into the realm of joint warfare in Western countries such as the United States, France, Britain and Australia.[342] While still in its conceptual birth-throes and a subject of controversy, effects-based thinking is increasingly viewed as an approach to warfare that has the potential to serve as a common intellectual denominator for executing joint operations. In joint expeditionary warfare, effects-based thinking is less about the size of joint forces committed to action than it is about the achievable outcomes within a unified operational framework.[343]

From this perspective, the key element is to integrate information, strike and manoeuvre from land, air and sea capabilities. Precision joint fires and networking permit the synchronisation of lethal effects. Yet, because joint warfare does not equate to a homogenous approach to the use of armed force, the theory of effects-based operations offers great

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[341] Gray, *Modern Strategy*, p. 209. Emphasis in original.

[342] See US Joint Forces Command, *A Concept for Rapid Decisive Operations*, Whitepaper Version 2.0, J9 Futures Lab, August 2001, p. 6; Admiral Sir Michael Boyce, 'Achieving Effect: Annual Chief of Defence Staff Lecture', *RUSI Journal*, February 2003, vol. 148, no. 1, pp. 30–7; and Australian Defence Force, 'Effects-Based Operations; Contributing to the Achievement of National Ends', Draft Future Concept, Military Strategy Branch, November 2003.

[343] Douglas Macgregor, *Transformation Under Fire: Revolutionizing How America Fights*, Praeger Publishers, Westport, CT, 2003, p. 68.

potential for carefully refining the diverse roles of each of the environmental services.[344] In short, an effects-based approach to the use of force in statecraft does not replace the traditional schools of continental, maritime or aeronautical strategies. On the contrary, properly conceived and applied, an effects philosophy seeks a 'complexity advantage' by maximising the number of interactions that any enemy must confront.[345]

In terms of the school of continental strategy, an effects-based approach holds out the opportunity for military practitioners to educate politicians and strategic policy-makers in the special uses of the land component of armed conflict in the new millennium. It is worth noting that land operations and the occupation of territory have been essential factors in earlier 'effects-based' victories. The latter include Sherman's march through Georgia in 1864 during the American Civil War; the German conquest of France and the British defeat of the Italians in North Africa in 1940 during World War II

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[344] See Lieutenant Colonel Allen W. Batschelet, 'Effects-Based Operations: A New Operational Model?', in Murray, *Transformation Concepts for National Security in the 21st Century*, pp. 101–32. In the United States, effects-based operations have been described as 'an enabler of the Rapid Decisive Operations concept' by Joint Forces Command (JFCOM). The aim is to generate strategic effects 'through the synergistic, multiplicative, and cumulative application of the full range of military and nonmilitary capabilities at the tactical, operational, and strategic levels', US Joint Forces Command, *Effects-based Operations*, White Paper Version 1.0, J9 Concepts Department, US Joint Forces Command, Norfolk , VA, 1 August 2001, p. 5.

[345] Kolenda, 'Transforming How We Fight: A Conceptual Approach', p. 111.

respectively; and the North Vietmanese Tet Offensive against American forces in 1968 during the Vietnam War.[346]

In the 2003 Iraq War, the use of land forces proved vital in the overthrow of Saddam Hussein, and the occupation and stabilisation of Iraq has become critically dependent on well-trained ground troops. Land warfare theorists make a mistake, indeed they draw a false dichotomy, when they view effects as being the antithesis of ground operations. Joint effects are both decisive (aimed at strategic–operational outcomes) and enabling (shaping the battlespace). As one leading land warfare specialist, Colonel Douglas Macgregor, has noted, 'simply put, effects-based thinking is another way to plan backward from victory'. Macgregor goes on to note, 'the concept of creating effects to attain a specific political–military objective in foreign crisis or conflict is central to land warfare and must be understood as essential to joint warfare as well'.[347]

Effects-based operations represent a full-dimensional approach to conflict; they are an expansion of, not a substitute for, ground operations that may involve joint forces in a range of full-spectrum military activities. This reality has been recognised by the US Army's Future Combat System, which plans to create automated effects coordination cells (ECCs) aimed at linking dispersed fire delivery systems throughout the battlespace.

The acceptance of effects-based thinking into mainstream doctrine by land forces is also illustrated by the case of the French Army. Effects-based theory has been embraced by the

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[346] Davis, *Effects-Based Operations (EBO): A Grand Challenge for the Analytical Community*, pp. 13–14.

[347] Macgregor, *Transformation Under Fire: Revolutionizing How America Fights*, pp. 72; 86.

French military as a means of emphasising the importance of ground forces moving beyond a purely 'battle' mentality towards stability or 'counter-war' operations involving the use of multifunctional 'mastery of violence'.[348] Arguing that the spectrum of conflict embraces a new typology of symmetric, dissymmetric and asymmetric opponents, French military theory notes that 'the study of future combat must enable the army to choose operational effectiveness factors on which an effort will ensure its superiority under all circumstances'.[349]

Recent doctrine for French ground forces has distinguished between two modes of action: coercion operations (the traditional use of force) and management of violence (the proportional use of force in stability or counter-war operations). Ground forces need a capability for coercive warfighting operations undertaken in limited time and space in order to produce 'a precise and locally decisive effect'. However, they also require the skills to carefully manage violence in a larger space and time framework. Military forces must be capable of undertaking operations in ambiguous environments among civilians and non-combatants in order 'to produce definitive although strictly circumscribed effects, for persuasion purposes'.[350]

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[348] Däniker, *The Guardian Soldier: On the Nature and Use of Future Armed Forces*, *passim*.; and Brigadier General Loup Francart and Jean-Jacques Patry, 'Mastering Violence: An Option for Operational Military Strategy', *Naval War College Review*, Summer 2000, vol. 53, no. 3, pp. 144–84.

[349] French Army, General Staff/Doctrine and Combat Development, *Future Engagements by Ground Forces*, p. 58.

[350] *Ibid*., pp. 29; 60.

The objective is for ground forces to establish a 'new typology of effects' for operations in both warfighting and counter-war modes of action using versatile force packages. Actions in both modes of operation are seen as being shaped by a synergy between ISTAR resources and attack systems that create an 'effect-producing system'.[351] Long-range strike and short-range close contact forces will fire and manoeuvre 'to produce precise and circumscribed effects in space and time, including in depth'.[352]

The French approach to effects-based operational theory reflects the politico-military complexities of using force in the age of globalisation. It also represents an attempt by an advanced military of the continental school of strategy to extend the range of land power across the new spectrum of 'peace, crisis and war'. As French theorists have argued, war can no longer be seen simply as the opposite of peace. Rather, war has become 'a mixture of phenomena' from which the political and the military cannot be easily distinguished.[353]

An operation may not only be joint, but it may also have to recognise the presence of multinational forces and inter-agency involvement. In circumstances in which there may be no formally declared hostilities, but in which violence is endemic, an operational commander needs both 'a comprehensive and detailed grasp not just of the military but the political dimensions

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[351] *Ibid*., pp. 45–6; 56.
[352] *Ibid*., pp. 64–5.
[353] George A. Bloch, 'French Military Reform: Lessons for America's Army?', *Parameters: US Army War College Quarterly*, Summer 2000, vol. XXX, no. 2, p. 43.

of the conflict'.[354] In many ways, the French military appears to have recognised the interaction of intrinsic and extrinsic dimensions in the theory and practice of modern land power.

For the above reasons, and with Cartesian rigour, French military theory argues that ground forces must learn to act in six fields of operation: the *conceptual*, the *decision-making and information systems*, the *geographical*, the *psycho-sociological*, the *geopolitical* and the *physical*.[355] Conceptual fields reflect the world of ideas, doctrine and concepts; the decision-making and information systems fields embrace the arena of networks and international law; while the geographical fields require a mastery of territory, lines of communication and strategic resources. The psycho-sociological fields represent the arena of values, culture, ethology, the media and humanitarian activity, all of which must be understood by soldiers; the geopolitical fields highlight the interaction between military action, diplomacy and international relations. Finally, the physical fields of the ground environment itself demand an advanced knowledge by military practitioners of the use of terrain, including urban areas, and the interface between territory and the dimensions of time and space.[356]

The French Army's approach is instructive in that it identifies a future need for well-educated and highly trained soldiers who can operate across the spectrum of war—at once warfighters, technocrats, diplomats and humanitarians. The growing complexity of military action suggests that it is at the political–

[354] Francart and Patry, 'Mastering Violence: An Option for Operational Military Strategy', p. 143.
[355] *Future Engagements by Ground Forces*, pp. 56–8.
[356] *Ibid.*

military interface and not solely in the technological–targeting realm that an effects approach is likely to be most relevant.

With its focus on integrating all elements of national power, an effects approach has the potential to enhance the geopolitical use of land forces. Thus, an effects-based perspective presents a way of ensuring that the unique character of land warfare is appreciated politically, strategically, operationally and tactically. 'Operations with the greatest potential for success', notes one influential American study, 'will be effects-based operations that involve all aspects of national power (political, military, economic, and diplomatic)'.[357]

Military professionalism, operational insight and conceptual thinking about war become imperative in this process. In this context, it is significant that the British defence establishment, long cautious about embracing untested military concepts, now sees its future in terms of effects-based campaigning using networked forces.[358] To this end, the British Army has embraced a Future Rapid Effects System that concentrates on refining the capability of the land component of a joint force to apply military power.[359]

Finally, it is worth noting that, in some respects, the evolving theory of effects-based operations conform with what in 1967 Admiral Wylie described as the main purpose of strategy:

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[357] Gleeson *et al.*, *New Perspectives on Effects-Based Operations: Annotated Briefing*, p. 13.

[358] Boyce, 'Achieving Effect: Annual Chief of Defence Staff Lecture', pp. 30–7.

[359] General Sir Michael Jackson, 'The Future of Land Warfare', *RUSI Journal*, August 2003, vol. 148, no. 4, pp. 55–7. General Jackson is currently the Chief of the General Staff.

control over an enemy's behaviour by manipulation of identified centres of gravity. By use of a 'spectrum of war-plan concepts', Wylie suggested that control—whether 'direct, indirect, subtle, passive, partial or complete'—should take precedence over mere attrition or destruction.[360] Only the future will reveal whether a joint effects-based strategy, one that employs the special characteristics of land power in a joint operational framework, can become a realistic method of waging war in the 21st century.

[360] Wylie, *Military Strategy: A General Theory of Power Control*, pp. 84; 105.

Conclusion

In his book, *The Ghost of Napoleon*, Liddell Hart wrote:

> The influence of thought on thought is the most influential factor in history. Yet being intangible, it is less perceptible than the effects of action, and has received far less attention from writers of history. We recognise that it is man's capacity for thought that has been responsible for all human progress.[361]

This monograph has sought to investigate the power of ideas, of 'thought on thought' in modern land warfare in the past, and in land power in the present and the future. It has analysed the evolution and character of the school of continental strategy from the beginning of the 19th century to the beginning of the 21st century, using insights from a *tour d'horizon* of military and geopolitical theory. In the shadow of Napoleonic practice, it has been Clausewitz, the greatest of all military theorists, and Mackinder, the greatest of all geopoliticians, that have shaped the West's understanding of the use of land power as an instrument of statecraft.

The central argument of this essay is that, in order to comprehend land power in the fullest sense, one must understand its development through examining the history of the continental school of strategy. Furthermore, one must recognise the dichotomy or dialectic in the subject between an intrinsic or purely military theoretical dimension (knowledge of land warfare techniques) and an extrinsic or geopolitical dimension (knowledge of the use of land power in grand strategy). Those students of strategy that seek to truly understand land power in the 21st century must study both Clausewitz and Mackinder.

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[361] B. H. Liddell Hart, *The Ghost of Napoleon*, Faber & Faber, London, 1933, p. 11.

Ultimately, it is in the interaction of the military theoretical and geopolitical components that land power reaches its fullest expression as an instrument of statecraft.

Despite intellectual and technological challenges from the 'end of geography' school of information warfare theorists and from air power strategy in the 1990s, land power's future lies not in competition but in collaboration with sea, air and cyberspace. In the future, Mackinder's land wolf will not hunt alone; it will hunt in the company of sea and air wolves, for ours is the age of the joint pack. We must therefore learn to apply the fangs and claws of each different, yet complementary, animal in the joint wolf pack during the hunt, the attack and, ultimately, the kill.

The geostrategic equation of the 21st century is not one of binary opposites: it is not a case of 'Mackinder versus Mahan' or of 'information versus geography'. Nor is there much of value to be gained from attempting to prove or disprove the 'dominance of Douhet' and still less in suggesting 'the end of Clausewitz'. The reality is of a spectrum of conflict embracing peace, crisis and war that requires the use of force in pre-conflict, conflict and post-conflict situations of both conventional and unconventional operations. Given this situation, the true intellectual challenge is rather how best to create a synergy between the six great schools of strategy identified by John Collins: the continental, the maritime, the aeronautical, the astronautical, the special operations and the unifying. The aim must be to create a joint strategy that translates operational and strategic successes into concrete political outcomes.

Forging such a joint strategy that suppresses false dichotomies and embraces the intrinsic strengths of all of these schools will be a daunting challenge in the future. The first and greatest

lesson for environmental strategists engaged in the process of joint strategy should be a simple one: 'know thyselves'. In all advanced armed forces, sound concepts and clear doctrine will be required to match the technology of the information age that is propelling joint warfighting to prominence. In order for land power to play its vital role in the joint future, Western armies will have to make a firm commitment to reforms in military education in order to meet the complexity and ambiguity posed by the coming of the nonlinear battlespace and the cultural–historical challenge of the spectrum of conflict.

Moreover, the biggest difficulty facing advanced armies in the early part of the 21st century may be the requirements of military reorganisation to manage the effects that emanate from networked military action. Given the staggering complexity of the joint battlespace, armies will have to change their 'line and staff' organisation, if they are to be successful in providing the land component's effects of fire and manoeuvre. Tailored military force packages aligned to specific missions and accompanied by effective headquarters arrangements will almost certainly emerge in the future to exploit the full spectrum of ground, air, sea and, increasingly, space effects. For armies, the massing and delivery of precise effects through the use of RMA-style technologies will greatly expand the land component's three-dimensional battlespace. Such an expanded battlespace will bring with it unprecedented challenges in command and control at all levels of war.

As a result, in the future, the modern military profession will increasingly require operational artists, not tactical artisans—officers who understand the physics and politics of war as well as the mechanics of combat. The spectrum of conflict will demand that warfighters immerse themselves in military theory

and geopolitical thought, much of which will be drawn from the historical treasure chest of the continental school of strategy.

The formulation of strategy is always about balancing ways, ends and means. While the specific needs of statecraft determine the particular choice of military instruments in times of crisis, the wise statesman will try to ensure that his strategic repertoire is broad, not narrow. The wise soldier should be on hand to advise the policy maker not only what land power can accomplish in the battlespace, but also how, historically, land power serves statecraft as a component of geopolitics. The expansion of the media of strategy and the range of military capabilities that policy makers can bring to bear may have expanded greatly since Napoleon, but the latter's maxim that the art of strategy resides in using time and space remains timeless. As Henry Kissinger has noted, success in war resides in bringing the 'discipline of the available power into some relationship to the objectives likely to be in dispute'.[362] Ultimately, it is possible that an effects-based strategy, holistically conceived, may offer a useful intellectual basis for devising a joint warfare strategy that unifies Paul Kennedy's 'armaments with policies'.

Although the Europe of Napoleon, Moltke, Schlieffen, Svechin, Guderian and Ogarkov has passed into history, the school of land power based on two centuries of continental strategy endures. For better or for worse, the legacy of European civilisation to the art of war has shaped the modern world, and its influence is likely to remain profound in the future. Land power has entered the early 21st century

[362] Henry A. Kissinger, *Problems of National Strategy: A Book of Readings*, Praeger, New York, 1965, p. 5.

possessed of both discontinuities and continuities. The age of great decisive battles, of industrialised mass armies and territorial-based mobilisation has given way to the multidimensional battlespace, air–land operations and smaller, highly professional ground forces. Yet such changes have not altered the basic rationale for land power that remains today, as it has throughout history, the oldest and most conclusive tool of war as an extension of politics.

Despite the new phenomenon of globalisation and the arrival of the information revolution, human beings do not live in the realm of cyberspace. They continue to inhabit territorial space, and given this universal truth, the land imperative still defines the identity and highest values of human beings in both peace and war. If the study of the past teaches us anything, it is that all peoples possess a sense of both time and space, of historical consciousness and geographic ideology. Time and space are the stage on which humanity's dramas are played out; in each era the cast alters but the set remains largely the same.[363]

The essential role of land forces in modern joint warfare has been proven in the early 21st-century campaigns in Afghanistan and Iraq. These two conflicts have reaffirmed the age-old strategic role of soldiers, from phalanx to foxhole, as instruments of control in armed conflict. As Michael Howard has observed, the West's arsenal of Tomahawk cruise missiles may command the air, but it is human adversaries armed with Kalashnikov assault rifles that still rule the ground.[364]

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[363] Braudel, *A History of Civilizations*, p. 10.

[364] Michael Howard, *The Invention of Peace: Reflections on War and International Order*, Profile Books, London, 2000, p. 102.

This strategic paradox means that war cannot be fought in the antiseptic world of cyberspace or by long-range targeting from the air. Until the enemies of stability, order and prosperity are confronted on land, there can be no lasting enforcement of peace, no development of civilised norms of behaviour and no global justice. In this respect, it is fitting to let Admiral Wylie have the last word, 'if the strategist is forced to strive for final and ultimate control, he must establish, or must present as an inevitable prospect, a man on the scene with a gun. This is the soldier'.[365]

[365] Wylie, *Military Strategy: A General Theory of Power Control*, p. 85.

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