THE OWL OF MINERVA FLIES AT TWILIGHT: DOCTRINAL CHANGE AND CONTINUITY AND THE REVOLUTION IN MILITARY AFFAIRS

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FOREWORD

In the wake of the Gulf War, there has been increased interest in what the Soviets once called the Military Technological Revolution (MTR) and what is now considered more broadly as a Revolution in Military Affairs (RMA). In the strict military sense, that revolution has to do with quantum changes in areas ranging from information technologies to those dealing with precision strike weaponry. These changes, in turn, will require more adjustments in military doctrine and organization.

But as this study demonstrates, revolutions in military affairs have never been strictly military phenomena. Social and political transformations in the past have also been major and often catalytic ingredients of such revolutions. The current revolution is no exception, whether it involves the relationship of communication-information breakthroughs to the interaction of the elements of Clausewitz's remarkable trinity, or the civil-military aspects concerning the use of military force in the post-cold war era.

In all this, the United States military, and particularly the United States Army, is doctrinally ready to move into the revolution underway in military affairs. On the one hand, there is the emphasis on versatility in terms of dealing with the changes that accompany any such revolution. On the other, there is the continuity of the doctrinal framework, itself a product of an earlier RMA, which will serve, this study convincingly concludes, to ease many of the sociopolitical problems that may emerge as the revolution in military affairs continues.

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CHAPTER 1

INTRODUCTION

The line it is drawn
The curse it is cast
The slow one now will
Later be fast
As the present now
Will later be past
The order is rapidly fadin'
And the first one now
Will later be last
For the times they are a-changin'.

Bob Dylan

Bob Dylan's emphasis on change resonates for the American military today as it seeks to come to grips with what the Soviet Union once called the Military Technological Revolution (MTR) and what is now considered a broader Revolution in Military Affairs (RMA). "We are in the midst of a dramatic change in the relationship between technology and the nature of warfare," General William Odom has pointed out in this regard while concluding that no one fully understands that relationship. "Strategists must think about it, however, and try to uncover its inchoate ramifications . . . if they are to design an effective military doctrine and appropriate military capabilities for the coming decades."[1] That, of course, is easier said than done. Throughout history, the interaction of technology and war has been as much the result of the arbitrary and the accidental as the inevitable and the necessary. "There are logical limits to what can be predicted about technological change," the authors of the National Defense University's *Project 2025* concluded.

> Revolutionary advancements are by their very nature unforeseeable. That they will occur is a near certainty; what they will be, however,is far less certain. Changes in technology of a less-than-revolutionary nature are difficult to predict as well. Predicting what advancements will be made implies that one knows that existing obstacles to developing a technological capability can be overcome. This implies, paradoxically, that one somehow knows the solution to the relevant problems in advance of their actual solution.[2]

What can help in all this is the knowledge that with change, there is usually continuity due to what Robert Heilbroner calls the "inertia of history." Inertia in this sense does not just mean resistance to change, but also what Heilbroner refers to as the "viscosity" of history--the tendency of people to repeat and continue their way of doing things as long as possible. Thus, despite the fact that the "normal" condition of man has been

sufficient to warrant revolution, such occurrences are remarkable in history not for their frequency, but for their rarity.[3] This continuity plays a key role in biology and evolution as Stephan Jay Gould has illustrated with the Panda's "thumb." Pandas are the herbivorous descendants of carnivorous bears whose true anatomical thumbs were used in those early days for meat eating. With the adaption of their diet to bamboo, the pandas required more flexibility in manipulation. Nevertheless, the pandas have since made do with their makeshift substitute, the so-called false thumb--a clumsy, suboptimal structure (a sesamoid thumb) which, however, works.[4]

That such suboptimal continuity can apply to technology is demonstrated by the survival of QWERTY as the first six letters in the top row of the standard typewriter. That grouping came about in the first place because in the crude technology of early machines, excessive speed or unevenness of stroke could cause two or more keys to jam, with any subsequent strokes increasing the problem. As a result keys were moved around to find a proper balance between speed and jamming. That balance was QWERTY, which slowed down the maximal speed of typing by either allocating common letters to weak fingers or dispersing those letters to positions requiring a long stretch from the home row of keys. This drastically suboptimal arrangement survived and has continued to dominate up to the present, because the contingency or historical quirk that led to the development was reinforced by incumbency, much the same way some politicians can dominate for a lifetime once they gain office and have access to privilege, patronage and visibility. The continuity which accompanies the quirkiness of history that produced the original condition is an accepted part of the human condition; for absent that quirkiness, man would not be on earth in an evolutionary sense to enjoy it. "We need our odd little world," Gould concludes, "where QWERTY rules and the quick brown fox jumps over the lazy dog."[5]

The search for continuity draws the statesman and the analyst to the past, the start point in conventional wisdom for the process of understanding change. Some, most notably Georg Wilhelm Friedrich Hegel, would not agree. What man learns from history, the German philosopher pointed out, is that he does not learn from history--that, in fact, wisdom and direction only occur "when actuality is already there cut and dried after its process of formation has been completed." "The owl of Minerva," Hegel concluded in this regard, "spreads its wings only with the falling of the dusk."[6] Others see the *sine qua non* for dealing with the present and the future as knowledge of what has gone on before, the absence of which, in George Santayana's famous maxim, condemns man to repeat the past. This is sometimes perceived, however, as encouragement to policymakers who tend to assume that a trend in the past will continue into the future without considering what produced that trend or why such a linear projection might prove to be wrong. "Santayana's aphorism," Arthur Schlesinger has pointed out in this regard, "must be reversed: too often it is those who *can* remember the past who are

condemned to repeat it."[7]

The answer to the problem of properly matching continuity and change lies in the process of what Richard Neustadt and Ernest May call thinking in "time streams." The core attribute for such thinking is to imagine the future as it may be when it becomes the past--a thing of complex continuity. Thus, the primary challenge is to ascertain whether change has really happened, is happening or will happen. "What's so new about that?" is the operative question that can reveal continuity as well as change. It is not, however, an easy matter to draw reliable distinctions between the two in advance of retrospect. How, for instance, could Herbert Hoover have known in the spring of 1930 that the accustomed past would not reassert itself. Certainly there was no guide in the experiences of the 1893-97 depression or the financial panics of 1907 and 1921. Nevertheless, such sudden change does not occur that often in history; and continuity remains an important anodyne from the past that can inform the present and the future. This is why somebody like Thucydides can seem so contemporary--why for instance, the contest between Athens and Sparta in *The Peloponnesian War* seemed to resonate again in the cold war, or why the expedition to Syracuse had overtones for America's "half-war" in Vietnam.[8] Ultimately, this is why Hegel was wrong--why the owl of Minerva actually flies at twilight, leaving the student in the present as he looks to the past and the future, to ascertain how much of the flight occurs at dawn and how much at dusk.

Thinking in time can also help at the macro-level as the United States prepares to enter a new millennium in which the future is likely to remain as capricious as it often has been in the past. As recent events have demonstrated, there are always new "shocks" that can radically transform the loci of threats, opportunities, or power. Strategic thinking in such an environment has to deal with the relatively transparent threats that still abound while attempting to cushion the nation against the unexpected, whether in the form of environmental and human disasters, incipient hostile ideology, or sudden technological breakthroughs. But what is really new? Such an approach has been the norm throughout most of America's history. The sense of abnormality in the current transition period is actually an artifact of the cold war. It was the bipolar stability of that long twilight conflict that was the anomaly, the loss of which, as Henry Kissinger noted of a similar period under the 19th century European concert of powers, can come as a shock: "For in the long interval of peace the sense of the tragic was lost; it was forgotten that states could die, that upheavals could be irretrievable . . . ."[9]

In contrast, for most of American history, U.S. strategists have had to deal with a world in which the nature of prospective opponents, and particularly the degree of threat, were relatively more ambiguous than they were in the bipolar context of the

global environment after 1946. "In many respects . . . the era ahead is ushering in a period of strategic normality," the authors of the NDU futures project have concluded. "To the historian writing in 2025, it will be the frozen simplicities of the cold war that will seem bizarre, not the strategic flux that characterized the periods before and after it."[10]

It is too early to know what those historians will say concerning the current efforts by the U.S. armed forces to deal with the Revolution in Military Affairs (RMA). This monograph will attempt to demonstrate, however, that the American military, particularly the U.S. Army, has been thinking in time streams for a considerable period in dealing with its overall doctrinal framework and that as a consequence, a mix of continuity and change in that framework will carry it well and effectively into the vortex of the RMA. That journey will not be without significant problems, particularly in terms of using the fruits of the RMA to apply force across the range of military operations. But as this monograph will also demonstrate, those problems, as in such revolutions in the past, have more to do with politics and civil-military relations and cannot be fully addressed by military doctrine alone.

In any event, broad knowledge based on thinking in time can only reveal so much in terms of detailed change and continuity. Dealing with doctrine in the "peaceful" change of the post-cold war era will encounter similar difficulties. In such times, the owl of Minerva still flies at an undetermined twilight; and the military, as Michael Howard has pointed out,

> is like a sailor navigating by dead reckoning. You have left the terra firma of the last war and are extrapolating from the experiences of that war. The greater the distance from the last war, the greater become the chances of error in this extrapolation. Occasionally there is a break in the clouds: a small-scale conflict occurs somewhere and gives you a "fix" by showing whether certain weapons and techniques are effective or not: but it is always a doubtful mix . . . . For the most part you have to sail on in a fog of peace until at the last moment. Then, probably when it is too late, the clouds lift and there is land immediately ahead; breakers, probably, and rocks. Then you find out rather late in the day whether your calculations have been right or not.[11]

CHAPTER 2

THE REVOLUTION IN MILITARY AFFAIRS

In the wake of the Gulf War, a host of officials and analysts turned to what the Soviets had long considered was a modern military revolution as an explanation for that victory. "The war," Secretary of Defense Cheney concluded in the official after-action report, "demonstrated dramatically the new possibilities of what has been called the 'military-technological revolution in warfare.'"[12] This was matched by a study of the war conducted by the Center for Strategic and International Studies (CSIS), which contained a chapter entitled "The Revolution in Warfare" that was almost rhapsodic as it contemplated a future of sophisticated battle management systems, space stations and unmanned aerial vehicles.

> In sum, the nature of warfare is changing. Although the revolutioni in warfare is still underway, its outlines have become clear. The effects of technology--in precision guided weapons, in stealthy delivery systems, in advanced sensor and targeting systems, in battle management platforms--is transforming and in fact already has demonstrably transformed the way in which armed forces conduct their operations.[13]

In 1993, the CSIS devoted an entire report to the RMA, "a *fundamental advance in technology, doctrine or organization that renders existing methods of conducting warfare obsolete*."[14] A true revolution, the study included, would require a holistic effect provided by the integrating framework of doctrine and organization coupled with the enabling capabilities (e.g., information dominance, C^2) and the executing capabilities (e.g., smart weapons, major platforms) provided by technology. "One without the other more often constitutes an evolution."[15]

The most enthusiastic response to the revolutionary aspects of the Gulf conflict has come from Alvin and Heidi Toffler who see it as ushering in what they term Third Wave warfare. The First, or agrarian wave, was launched by the agriculture revolution 10,000 years ago; the Second, or industrial wave, in the last 300 years by a combination of the Newtonian and Industrial Revolutions. The Third, or post-industrial wave, coexists with the other two waves, creating a trisected world, in which the First Wave sector supplies agricultural and mineral resources and the Second Wave cheap labor for mass production, while the Third Wave rises rapidly to dominance based on the creation and exploitation of knowledge.[16]

In this milieu, the Tofflers see the addition of a Third Wave war form as increasing the potential for heterogeneity in the wars the United States must prevent or fight. In other words, older warfare forms don't entirely disappear when newer ones arise, just as Second Wave mass production has not disappeared

with the advent of customized Third Wave products. As a consequence, there are today approximately 20 countries with regionally significant Second Wave armies. And some of these as well as a few First Wave countries are attempting to gain Third Wave technology. The result is a wide range of military operations. At one end are the small, essentially First Wave civil wars and violent conflicts in poor or low tech countries accompanied by sporadic terrorism and drug wars. At the other end is the Third Wave warfare presaged, in part, by the Gulf War. Somewhere in between and lapping at the successive wave, as it did in Kuwait, is the very strong residue of the large scale Second Wave warfare.[17]

The task for the future in all this is to develop "niche warriors" for Third Wave niche warfare that will eventually replace large scale, second wave conflicts. These warriors, the Tofflers envisage "will wage information-intensive warfare, making use of the latest Third Wave technologies now on the horizon."[18] That in turn will require a new type of fighter, variously referred to as the "Ph.D. with Rucksack," the "Knowledge Warriors," and the "Software Soldiers." "Mindless warriors are to Third Wave war," they conclude, "what unskilled manual laborers are to the Third Wave economy--an endangered species."[19]

The basic outline of the doctrinal framework for the RMA was also visible to the Tofflers in the Gulf War, reinforcing their belief that AirLand Battle (ALB) as it evolved in the late 1970s and 1980s represented "the U.S. military's first conscious attempt to adapt to the Third Wave of change."[20] It is for them by no means a completed action. Just as the civilization brought by the Third Wave has not yet reached its mature form, so is ALB only a beginning as the form of Third Wave war moves toward full development. In fact, widespread cutbacks in military funding will cause the armed forces to seek to do more with less and thus accelerate what the Tofflers perceive as a profound reconceptualization of war.

> What is becoming apparent now is that the military revolution that began with Air-Land Battle and made its first public appearance during the Gulf War is still only in its infancy. The years ahead, despite budget cuts and rhetoric about peace in the world, will see military doctrines around the world change in response to new challenges and new technologies.[21]

Other reactions to the Gulf War and discussions of the RMA have been more cautious. While acknowledging the effectiveness of such technology as the Joint Surveillance Target Attack Radar System (JSTAR) and the expanded volume of firepower delivery in such systems for tactical missiles as the Army Tactical Missile System (ATACMS) and the Multiple Launch Rocket System (MLRS), some observers also point to problems ranging from those dealing with intelligence and bomb damage assessments to those concerning

the tracking of the relatively primitive SCUD launchers. Others focus on what the Tofflers call a dual war form and emphasize that much of the technology used in the Gulf War dated back at least two decades. Thus, there was the mix of M113 APCs with M2 Bradleys; M60A3 tanks with M1A1 Abrams; and B-52Gs and F-4G "Wild Weasels" helping the F-117A stealth fighters. "The 'military-technical revolution' sparkled in the new systems," Eliot Cohen has pointed out in this regard, "but it drew as much on considerably more mature technologies."[22] In any event, like the Tofflers, most observers agree that to see the Gulf War as evidence of a full blown RMA is premature. The experience in that conflict, one concluded, "only hints at what might be possible in the revolutionary transformation of U.S. military capabilities were a military-technical revolution to be created."[23]

Finally, another group of observers sees the preoccupation with an RMA and Third Wave warfare as missing the basic point: the structure of international relations is rapidly changing and with it a return to First not Third Wave conflict. For A. J. Bacevich, this preoccupation on the part of the military demonstrates nothing more than "wooly-headed sentimentality" for the past embodied in massive Second Wave warfare.[24] As a result, the message from current military thinking in terms of the RMA is "that the future will be a reprise of World War II in the fancy dress of high technology."[25] It is, in short, a linear extension of the past into the future, one in which the military's view of technological marvels "offers a vision of war with which Patton himself would have felt right at home."[26]

In a similar manner, so-called "Fourth Generation Warfare" theorists moved early on beyond their Reform Movement preoccupation with maneuver warfare to argue that the state-centric world of Clausewitz's remarkable trinity (government, military, people) was ending. The first three generations of warfare came about since 1648 because of the interaction of technological advances and battlefield application combined secondarily with political imperatives. Now, however, nation-states are losing their importance as the primary actors in the international arena, even as nongovernmental organizations increasingly wage conflict to further their own policies. As a consequence, the Fourth Generation world is a return to a pre-1648 environment of politics and war. In this non-trinitarian world, technology may become virtually irrelevant, with military forces, effective in second and third generation conflict, rendered useless in a Tofflerian First Wave environment marked by flashpoints ranging from groups like the Medellin cartel to failed states such as Somalia.[27]

Martin van Creveld returned to the non-trinitarian theme after the Gulf War in his study on *The Transformation of War*, in which there is "every prospect that religious attitudes, beliefs and fanaticisms will play a larger role in the motivation of armed conflict than it has, in the West at any rate, for the last 300 years."[28] In this large cyclic continuity, he sees the state

losing its monopoly over armed violence and a shift to low-intensity conflicts in which advanced military technology will become increasingly irrelevant. "Considering the present and trying to look into the future," he concludes, "I suggest the Clausewitzian Universe is rapidly becoming out of date and can no longer provide us with a proper framework for understanding war."[29] To which John Keegan agrees, pointing out that technology in the form of nuclear weapons long ago undermined Clausewitz's most basic dictum. Non-trinitarian tendencies in current international relations only further discredited this proposition. "War is not the continuation of policy by other means," he concludes.

> . . . Clausewitz's thought is incomplete. It implies the existence of states, of state interests and of rational calculation about how they may be achieved . . . . What it made no allowances for at all was war without beginning or end, the endemic warfare of non-state, even pre-state peoples.[30]

Finally, all this has been tied by Robert Kaplan into an apocalyptic view of the future world in which the need for a military technical revolution becomes a gross irrelevance as states lose their legal monopoly of armed force and the current distinctions between war and crime break down. At that time, he points out, "the classificatory grid of nation-states is going to be replaced by a jagged-glass pattern of city states, shanty-states, nebulous and anarchic regionalisms . . . ."[31] It will be a "bifurcated world" with part of the globe inhabited by Hegel's and Fukuyama's last man--the well-fed recipient of all that technology can offer, and the other, much larger part, peopled by Hobbes's First Man, living out his "poor, nasty, brutish, and short" life. Like van Creveld, Kaplan sees re-primitivized man in warrior societies operating in an environment marked by planetary overcrowding and unprecedented resource scarcity in which state supported, technologically-enhanced military will have no effect.

> The intense savagery of the fighting in such diverse cultural settings as Liberia, Bosnia, the Caucasus, and Sri Lanka--to say nothing of what obtains in American inner cities--indicates something very troubling that those of us inside the stretch limo, concerned with issues like middle-class entitlements and the future of interactive cable television, lack the stomach to contemplate. It is this: a large number of people on this planet, to whom the comfort and stability of a middle-class life is utterly unknown, find war and a barracks existence a step up rather than a step down.[32]

Thinking in Time: Doctrine and Technology.

The interrelationship of technology and doctrine is an essential, but extremely complex part of a military revolution.

"A true RMA," Daniel Goure has pointed out in this regard, "involves not just technological advance but also changes to the way that militaries think about, organize themselves for, and wage combat."[33] The problem is to keep these elements in balance during times of great change. The current period, for example, may be one in which military potential could leap from one technical era to the next, as occurred between the Napoleonic Wars and the Franco Prussian War and between the two World Wars of this century. The rapid changes in computers and communication combined with the equally swift cost decline of both have already caused revolutionary changes in large corporate businesses that have not been seen since the advent of mass bureaucracies in the previous centuries. Similar changes could produce fundamental alterations in the military sphere ranging from the most basic notions of hierarchy and span of control to centralization and response time.[34]

In such an environment, the chicken-egg question concerning doctrine and technology will not become any easier than it has been in the past. The CSIS report on the military revolution, for instance, concludes that "decisions on doctrine . . . become a precondition and guidance for integrating the research and development of new technologies."[35] One example is how development of mechanized warfare doctrine led to the creation of self-propelled, protected artillery, capable of keeping up with the movements of armor units. And in World War II, the need for an amphibious vehicle that could move cargo from ship to shore resulted in the creation of the DUKW, or "Duck," used extensively in the amphibious operations in both the European and Pacific theaters.[36] On the other hand, this order runs the risk of distorting the result of technological breakthroughs. If doctrine dominates technology, the technological advantages may be overlooked, causing a quiet evolution rather than the much greater change that may be possible or necessary. And in fact some of the worst failures in warfare have come about not so much from an unwillingness to adopt new technologies, as from a persistence in clinging to older doctrines and then adusting the new technologies to those doctrines. In the U.S. Civil War, for instance, outdated tactics from the age of Napoleon were used in the face of modern riflery, new artillery and rifle entrenchments. In a similar manner, most European armies on the eve of World War I possessed doctrines emphasizing offensive maneuver and rapid, decisive battles that barely acknowledged the new technologies represented by a host of modern weapons ranging from artillery to the machine gun.[37]

That war at the outset also saw the continued retention of horse cavalry, a trend that demonstrated more than the military's inability to move beyond outmoded doctrines and comfortable but obsolete techniques. For as Michael Howard has pointed out, the case for cavalry not just as a reconnaissance force but in a battlefield role, was cogently made prior to 1914 by officers who had already experienced the Franco-Prussian, the Russo-Turkish and the Russo-Japanese Wars. In a similar manner, most Europeans

in this period ignored the lessons of changing warfare made clear over and over again in the American Civil War. That conflict, most concluded, came about because of unique terrain characteristics combined with poor training and leadership, not because of new technology.[38] With or without the major test of war, innovation, as the complex relationship of doctrine and technology evolves, may not occur; and there is always the potential of facing a situation that JFC Fuller described after the Great War. "We had made up our minds to play whist," he wrote of 1914, "and when we sat down we found that the game was poker."[39]

In the end, there is nothing new in the need to balance the opposing logic of technology and doctin military affairsrine. For technology, that logic is linear with a focus that will always be on efficiency through such methods as standardization and repetition. Doctrine, on the other hand, has to do with how a military fights an opponent and is thus concerned with effectiveness on what is after all at least a two-way strategic street. As a result, its underlying logic is paradoxical. The same action in war, for example, will not always cause the same result--and in fact probably just the opposite. "Given an opponent who is capable of learning," van Creveld has pointed out in this regard, "a very real danger exists that an action will not succeed twice *because* it has succeeded once."[40]

Making technology serve with doctrine, then, is a complex business. Efficiency may not be conducive to effectiveness and may in fact be just the opposite. A straight line in war, for example, is not always best. And although the line least expected may be the longest between two points, it may become the shortest and thus the most effective because the enemy considers it to be the longest. On the other hand, the price for the use of technology in war is a diminishment of its efficiency. Thus, estimates of technological superiority can be misleading without consideration of doctrine for the use of that technology. It was not, after all, just the intrinsic technical superiority of the longbows that brought victory to the English at Crecy, but the interaction of that weapon with the tactics and equipment of the French.[41]

In all this, there is much to extract from the time streams. To begin with, there is the sheer ubiquity of modern technology typified by the image of computer-dependent weapons and equipment together with their operators at every level of war. That such technology is a continuing and vital part of service doctrines is a given in the modern era. But such specialization can also carry the seeds of future problems that doctrine can't remedy, as the classic 16th century sea battle of Lepanto demonstrated. It was the loss of the Ottoman archers using the traditional Turkish weapon, the composite bow, that was the key aspect of the 30,000 Turkish dead out of 60,000 men engaged at that battle. For the composite bow required a lifetime of work and practice to master the requisite skills. It was the loss of these skilled naval

archers, irreplaceable in a single generation, that made Lepanto the turning point in Mediterranean affairs since that battle "marked the death of a living tradition that could not be reconstituted."[42]

Other lessons abound in history. The pitfalls of doctrine following a technology-dependent strategic concept can be studied in the creation of the U.S. Pentomic Army in the late 1950s. And there is the recognition that in developing doctrine, some weapons will not be effective until other technological advances occur. The machine gun, for instance, had to await the invention of smokeless powder--also a reminder that old and new technologies can be integrated and have a great effect on doctrine. The classic case is the relatively minor replacement in the 16th century of the plug bayonet with the ring bayonet which allowed the infantry to continue firing with the bayonet attached, thus transforming the role of the infantry and ending the debate over "pike" to "shot" ratios.[43] A more recent case is the use of stealth aircraft to precede conventional air in operations during the Gulf War.

The Gulf War is also a reminder that it is important to focus on the correct doctrinal and technological aspects in the after-action phase of any conflict. Less than a century has passed, in this regard, since the Russo-Japanese War, in which the French chose to buttress their doctrinal arguments from the lessons of the successful Japanese offensives rather than examine the implications of the defensive effectiveness of the machine gun and barb wire. That war also offers an example in the subsequent fate of the Czarist army of what can befall a military that does not innovate with doctrine and technology after defeat. "Defeat by itself does not tell a military organization what future wars will look like," Stephen Rosen has observed, "only that its preparations for the war just ended were not adequate."[44]

History also demonstrates that doctrinal and technological surprise is ephemeral at best. The doctrine of *Blitzkrieg* was soon matched by new doctrines and radical reorganizations combined with mass manufacture of anti-armor weaponry. And such countermeasures over the years have generally ended attempts to find technological panaceas in the form of wonder weapons. Thus, there were the dashed expectations for the SAM as an end to the airplane, for the shaped-charge guided missile in terms of destroying the tank, and for the attack submarine as a means to eliminate the surface vessel.[45] Only the nuclear weapon has defied attempts to mitigate its technological ability to surprise, with restraint only possible in a mutual doctrine of non-use based on "rationally" assured destruction. That this restraint could break down in an age of nuclear proliferation is reinforced by time streams going as far back as 1137, when the Lateran Council banned the use of the crossbow against Christian enemies, citing that weapon as not only destructive to mankind, but as being hateful to God. Richard Coeur de Lion reintroduced the crossbow into European wars, and many saw his death in 1199 by a bolt from

that weapon as a clear expression of divine displeasure at the affront to chivalric custom which disapproved of all weapons other than sword and lance. Nevertheless, technological innovation continued to outstrip the Council's prohibitions in the years to come. By 1529, Pierre du Tuerrail de Bayard, *chevalier sans peur et sans reproche*, could thank God that he had always used the proper weapons against knights: the sword, the lance and the crossbow.[46]

The role of the Lateran Council is also a reminder that there is nothing new in the interaction of policy at the highest civilian and military level with the development of doctrine and technology. In the interwar years, for example de Gaulle's proposal for a professional 100,000 man mechanized force was rejected because, among other reasons, of the political objections to the creation of a force designed primarily for offensive conflict.[47] In Germany, on the other hand, it was Hitler who pressed *Blitzkrieg* on an army that preferred to superimpose new technology on its current offensive doctrine rather than to experiment and innovate doctrinally to exploit to a greater degree all its potential. "That's what I need," he is reported to have stated in February 1935 after his first glimpse of tank maneuvers. "That's what I want to have."[48] And finally, on a more modern note, there was the resistance by the U.S. Army in the 1960s, despite the personal direction of the President, to develop army-wide capabilities for counterinsurgency doctrine because of the institutional belief that conventional wars would continue to dominate the Army's strategic requirement.[49]

Thinking in Time: The Sociopolitical Aspects of RMAs.

"A military revolution, in the fullest sense," the Tofflers have observed, "occurs only . . . when an entire society transforms itself, forcing its armed services to change at every level simultaneously--from technology and culture to organization, strategy, tactics, training, doctrine and logistics. When that happens, the relationship of the economy and society is transformed . . . ."[50] But technology is still key. And the modern pace of change, as van Creveld has demonstrated, is far removed from what he calls the "Age of Tools," the two millennia from approximately 500 BC to 1500 AD in which, after a few basic inventions like bronze weapons and wheeled vehicles, technological change had little effect on the conduct of war. There were, of course, such innovations as the stirrup and the high saddle; but the period was marked more by the constant alteration of existing technologies than the invention of new ones. This leisurely pace of technological change provided a stability to war for the age of tools with the result that important similarities persisted from conflict in ancient Greece to war in the later Middle Ages. For the Europeans of 1500, the past remained "contemporary history, freely to be culled for inspiration, examples, and for even outright models to copy."[51]

Even new technology in the form of gunpowder was not enough to cause a revolution as the old age began to end. The combination of archers and men-at-arms reached its climax at Agincourt. The next generations abandoned the bow and turned more and more to firearms, vainly groping for a tactical form of that firepower to substitute for the bow. The paradox of this doctrinal dilemma was that the introduction of the handgun caused a steep decline in firepower. So superior was the longbow in speed, accuracy and mobility, that even toward the end of the 17th century, military writers pleaded for it to be reintroduced.[52]

Nevertheless, as Michael Roberts has demonstrated, major changes occurred between 1560 and 1660 in four areas: tactics, strategy, size of armies, and sociopolitical institutions. All together, these changes amounted to a "military revolution."[53] Robert's thesis is linear. At the tactical level, Maurice of Nassau's doctrinal innovations changed the traditional 50-foot deep pike square into a line of musketry only 10 feet deep, all of which minimized the effect of incoming fire while maximizing the outgoing fire effect. This exposed more men to face-to-face combat which in turn required superior courage, proficiency and discipline for each soldier. It also required entire tactical units to perform swiftly and in unison the motions required for volley-firing. The answer was regimentation and discipline with troops trained to fire, countermarch, load and maneuver together.[54]

To all this, Gustavus Adolphus added more doctrinal innovations in the Thirty Years War--all resulting in a combination, in Robert's words, of "firepower and shock as nobody had been able to do since firearms replaced bows," thus ensuring "the recovery of the art of war from the debility which had been the result of the inventions of firearms."[55] These tactical innovations led to a revolution in strategy as commanders in the Thirty Years War broadened their horizons and began to look at Central Europe as one great theater of war with conflict ranging over Germany in its entirety as well as along its borders from Poland and Italy to Lorraine and the Netherlands. The new perspective was demonstrated in Gustavus' plan for the destruction of the Austrian Habsburgs by the simultaneous operations of five to seven armies, all effectively coordinated to move under his direction on a great curving front from the middle Oder to the Alpine passes. "(A)ll the wars of Europe," he wrote, "are now blended into one."[56]

The enlarged scope of warfare caused great increases in the size of armies which in turn led to even more ambitious and complex strategies for making use of the new forces. All of this meant that waging war became more of a burden and a problem both for the civilian populations and their rulers because of greater costs, greater damages and casualties, and greater administrative challenges. In addition to more people participating directly in war, the growth of armies brought in a host of noncombatants such

as entrepenuers and financiers who controlled the economic wherewithall of conflict and with whom the governments had to deal, paying inordinate sums for uniforms, weaponry and equipment. In response, the state changed the structure and philosophy of government, creating the social-political institutions that placed the ways and means of war in governmental hands. "By 1660," Michael Roberts concluded of the revolution that had begun with a fortuitous mix of new doctrine, organization and technology, "the modern art of war had come to birth."

> Mass armies, strict discipline, absolute submergence of the individual, had already arrived; the conjoint ascendancy of financial power and applied science was already established in all its malignity; the use of propaganda, psychological warfare, and terrorism as military weapons was already familiar to theorists, as well as to commanders in the field; and the last remaining qualms as to the religious and ethical legitimacy of war seemed to have been stilled. The road lay open, broad and straight, to the abyss of the twentieth century.[57]

Despite the openness of that road, the transformation occasioned by the military revolution was slower and the impact less total than was once thought. Throughout the 17th and early 18th century in Scotland, for instance, there were numerous encounters in which regular troops equipped with all the tools provided by the military revolution were defeated by the headlong charge of undisciplined clansmen armed with traditional weapons. Only at Culloden in 1746 did the Hanoverian army stop the Highland Charge and even then only because the British had overwhelming numerical superiority, considerable field artillery and, most importantly, improved fire control. In fact, the military revolution created problems to which there was no easy solution, the most prominent being that strategic thinking was crushed between the sustained growth in the size of armies and the relative scarcity of money, equipment and food. The result, as Roger Boyle, Lord Broghill and Orrery, wrote in the 1670s, was that "(b)attells do not now decide national quarrels . . . .For we make war more like foxes, than like lyons . . . ."[58]

As a consequence, the classic conflicts in the age of the military revolution were all "long wars," whether the French religious wars of 1562-98 and again in 1621-29 or the "80 Years War" in the Netherlands which involved continuous hostilities there between 1572 and 1607 and between 1621 and 1647. Equally important, this tendency continued to mark the battles of the next century. Thus the War of the Spanish Succession continued from 1701 to 1713 in spite of Blenheim, Ramillies, Oudenarde and Malplaquet. The "drama intrinsic to great battles," Russell Weigly has observed of the period, "often diverted attention from indecisiveness; but recalcitrant, intractable indecision nevertheless persisted."[59]

Decisiveness returned to the battlefield in the age of Napoleon without the benefit of any new technology. Classical strategy, as Figure 1 illustrates, had focused since the time of Alexander on the destruction of the enemy by means of concentration in terms of intra-battle maneuver and the battle itself. The metaphor, James Schneider points out, was one of torque with force applied at one end of a lever being concentrated at a single point on the other end.[60] It was a metaphor that could still apply to Napoleon. For while the French leader revolutionized the concepts of space and time with the concentric maneuvers of his major, independent, combined arms units, those maneuvers were still intra-battle in nature, focused for the most part on the destruction of the enemy in concentrated battle.

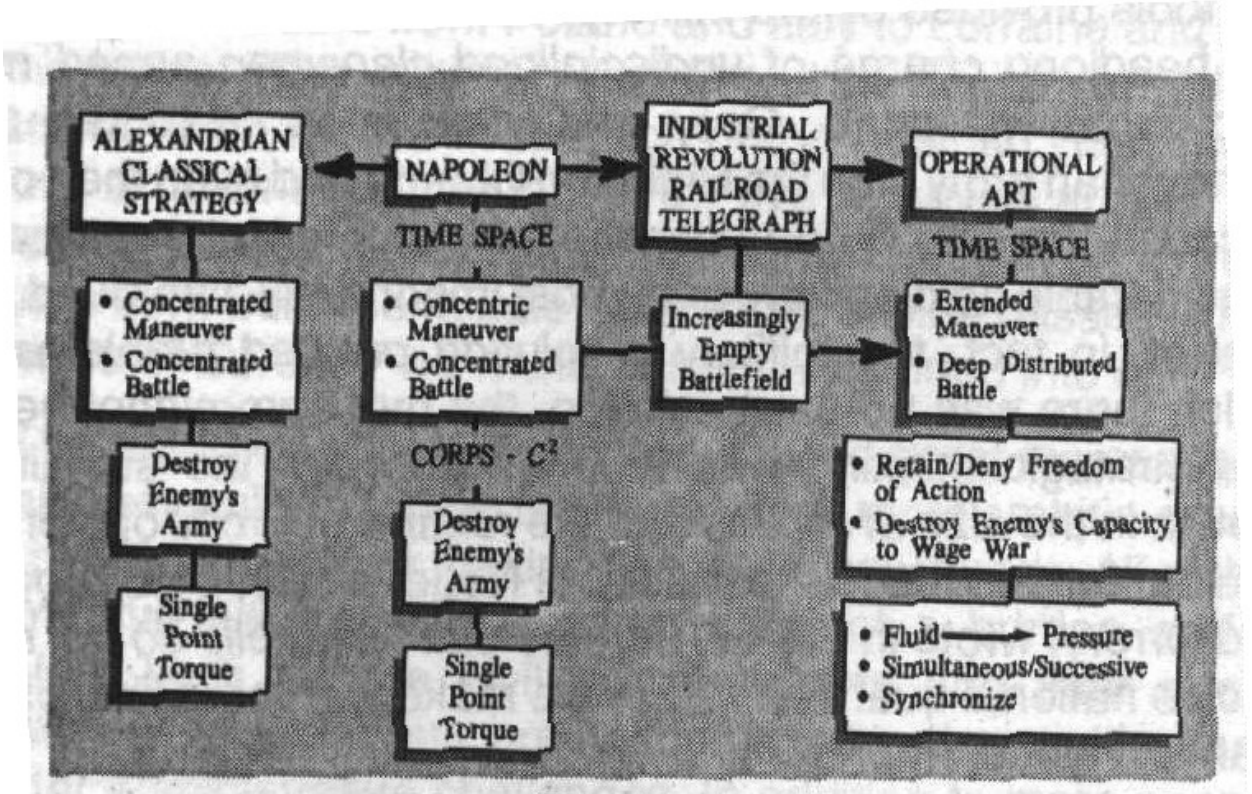

Figure 1.

The real revolution was captured by Clausewitz as he evaluated what had taken place at each level of the Napoleonic Wars. For the Prussian philosopher, the essence of the change was a conceptual framework in which separated military events were molded together to achieve higher objectives. It was, in fact, a vertical continuum (Figure 2) in which war emerged as a continuation of political intercourse with the addition of other

means.

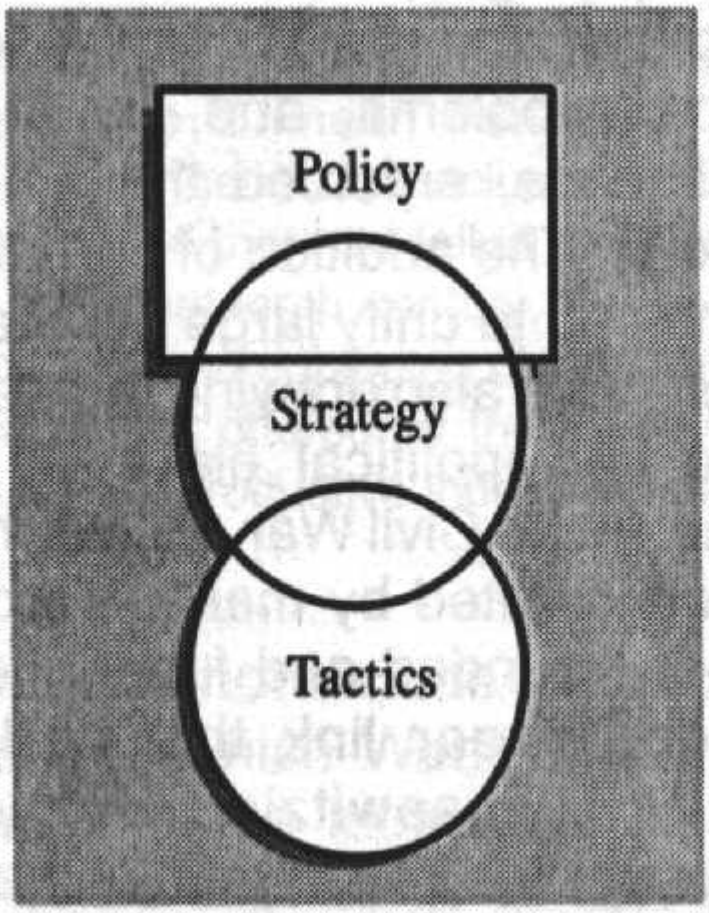

Figure 2.

At the tactical level, Clausewitz wrote, "the means are fighting forces trained for combat; the end is victory." For the strategist, however, he concluded that military victories were meaningless unless they were the means to obtain a political end, "those objects which lead directly to peace."[61] Thus, strategy was "the linking together (*Verbindung*) of separate battle engagements into a single whole, for the final object of the war."[62] And only the political or policy level could determine that objective. "To bring a war, or any one of its campaigns to a successful close requires a thorough grasp of national policy," Clausewitz pointed out. "On that level strategy and policy coalesce . . . .[63]

The full impact of both Clausewitz's concept and Napoleon's approach to war had to await the technology which by the time of the American Civil War ushered in a revolution in military affairs that continued through World War I (Figure 1). To begin with, there was the breechloading rifle, the increased lethality of which rendered the dense Napoleonic tactical formations and tactics obsolete, as American Civil War soldiers discovered more quickly than their leaders. But that lethality also renewed

interest in Napoleon's concept of extended time and space, because as battle space began to expand in proportion to the new range of the improved weapons, the looser formations occasioned by those weapons had the effect of emptying the battlefield. At the same time, the railroads speeded the movement of troops to the battle areas, simplified logistical problems, and, by the nature of their organizational railheads, enforced the emerging distributed pattern of operations. The addition of the telegraph combined with the railroad helped to unify large geographically separate military formations, while also drawing in what Michael Roberts described as the sociopolitical elements that accompany military revolutions. In the Civil War, for example, the telegraph and the railroad contributed by mail and communications as well as the flow of wounded and furloughed soldiers to the psychological front-to-rear link that had begun with the completion of the Clausewitzian trinity by the French nation-in-arms during the French revolutionary wars.[64]

That linkage also insured a continuous mobilization of the home front which in turn meant a continuous stream of logistics contributing to operationally durable formations (Figure 1). The result, as the constant litany of Confederate tactical victories illustrated through much of the war, was that single battles no longer determined national destinies. But as Grant illustrated in his use of armies scattered throughout the eastern United States in 1864-65, improved communications coupled with large operationally durable formations, could result in inter-battle maneuvers and thus in decisive operations and campaigns distributed in extended time and space. The result was something that went beyond the adjustment of activities to one another, which is the essence of coordination. It was in fact a process to which the metaphor of fluid rather than torque could apply, since pressure in one area might result in simultaneous or successive results elsewhere. Over a century later it would be described as synchronization, a concept that could involve activities far removed from each other in time or space, or both, "if their combined *consequences* are felt at the decisive time and place."[65] That process was captured in a letter to Grant in 1864. "I think our campaign of the last month," Sherman wrote from Savannah, "as well as every step I take from this point northward, is as much a direct attack upon Lee's army as though we were operating within the sound of his artillery."[66] The larger lesson of the century, however, was captured by Paul Kennedy, an historian accustomed to thinking in time streams.

> All these wars--whether fought in the Tennessee Valley or the Bohemian plain, in the Crimean Peninsula or the field of Lorraine--pointed to one general conclusion: the powers which were defeated were those that had failed to adapt to the 'military revolution' of the mid-nineteenth century, the acquisition of new weapons, the mobilizing and equipping of large armies, the use of improved communications offered by the railway, the steamship and the telegraph, and a productive

> industrial base to sustain the armed forces.[67]

But that adaption did not include full doctrinal conversion from classical strategy, which World War I would reveal as inadequate to deal with the intricacies of modern warfare. Napoleon had defined that strategy as the "art of making use of time and space." But as demonstrated in the Civil War, the dimensions of these two variables had been stretched and rendered more complex by the interaction of technology with the elements of the Clausewitzian trinity. And that very complexity, augmented by the lack of decisiveness at the tactical level, impeded the vertical continuum of war outlined in Clausewitz' definition of strategy as the use of engagements to achieve policy objectives,[68] and personified in 1917 by the French general who lamented: "Guns yes, prisoners yes, but all at an outrageous cost and without strategic results."[69]

Only when the continuum was enlarged, as the Great War demonstrated, was it possible to restore warfighting coherence to modern combat. And that, in turn, required the classical concept of strategy to be positioned at a midpoint, an operational level, designed to orchestrate individual tactical engagements and battles in order to achieve strategic results (Figure 3). Now, a military strategic level was added as another way station on the vertical road to the fulfillment of policy objectives. This left the concept of strategy, as it had been understood since the time of Clausewitz, transformed into:

> the level of war at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives . . . . Activities at this level link tactics and strategy . . . . These activities imply a broader dimension of time or space than do tactics; they provide the means by which tactical successes are exploited to achieve strategic objectives.[70]

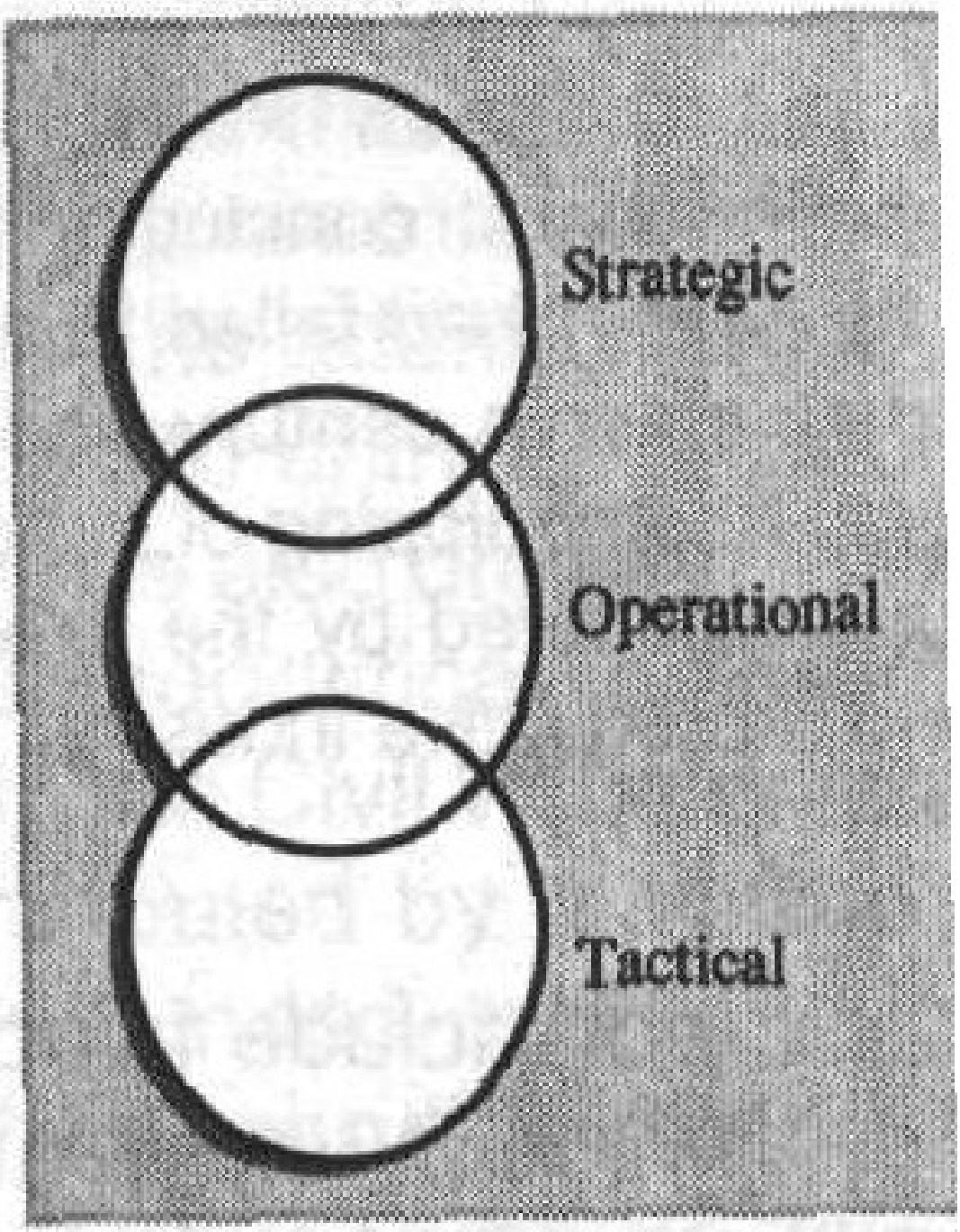

Figure 3.

CHAPTER 3

U.S. ARMY DOCTRINE AND THE RMA

In the wake of Vietnam, the U.S. Army returned to its traditional focus on Europe. During the previous decade, the Warsaw Pact had added impressive qualitative improvements to its already crushing numerical preponderance--a trend only magnified by new analytical and gaming techniques which emphasized the quantifiable components of combat power. Added to this was the 1973 Yom Kippur War, the violence and lethality of which came as a shock to an officer corps conditioned by years of low-intensity warfare in Southeast Asia. At the same time, an already demoralized army found itself without a peacetime draft and on the receiving end of a decade-long deficit in equipment modernization as well as a large manpower reduction. The result was "Active Defense," promulgated in the 1976 edition of FM 100-5, *Operations*--a doctrine that made a tactical virtue of what was perceived as a strategic necessity by translating NATO's politically driven requirement of forward defense into operational method.[71]

The criticism of Active Defense began even before the final result was published. The doctrine was attacked for a lack of offensive spirit and the loss of all the tactical imponderables like initiative and morale that accompanied such a spirit; for what was perceived as an overemphasis on firepower to the detriment of maneuver; and for the submergence of tactical creativity in a wave of attrition calculations. But the most telling criticism was that there was no operational content in the new doctrine, which promised at best, its critics charged, to defer defeat without any possibility of operational success. "In seeking to fulfill its doctrinal commitment to winning the first battle,'" Richard Sinnreich has pointed out, "the Army was accused of becoming so preoccupied with fighting the first battle that it forgot all about winning the last. For an Army traumatized by ten years of tactical success culminating in operational failure, no critique could have been more devastating."[72]

At the same time, there was renewed focus on Soviet doctrine, particularly the use of follow-on forces which were tailored-made, critics pointed out, against an Active Defense that depended on lateral reinforcement from less threatened areas in lieu of retaining major reserves. This impetus to extend the battlefield, however, required technology that could only be provided by the Air Force--an operative imperative that meant that a battle extended in time and space would have to be an AirLand Battle (ALB). The result was the promulgation of ALB doctrine in the 1982 FM 100-5, which brought the Army full circle back to the three levels of war as a doctrinal framework for "securing or retaining the initiative and exercising it aggressively to defeat the enemy."[73] As a consequence, there was nothing new in the motivation for creating combat coherence

throughout the vertical continuum of war in that framework. It was simply the age-old combination of technology and doctrine as a means to return to basics--a return to the business of winning by an Army that was unwilling, in Sinnreich's words, "to stomach indefinitely a . . . doctrine which appeared to enshrine the draw as the objective of military operations."[74]

The 1986 FM 100-5 continued the focus of 1982, adding operational art as the method for working the operational level of war while continuing to emphasize the absolute dominance of the strategic level in the vertical continuum. It is an emphasis that has been renewed in the current manual:

> Since wars are fought for strategic purposes, the doctrine addresses the strategic context of the application of force. Since battle is translated into strategic objectives by operational art, a major portion of the manual addresses the operational level of war. And since all operations must be based on sound tactics, a major portion of the text covers tactics.[75]

By now, the other armed forces have followed the Army lead in terms of using the vertical levels of war as a basic doctrinal framework--so much so that the current JCS basic doctrinal publication bears more than a little resemblance to the 1986 Army manual.

> The operational level links the tactical employment of forces to strategic objectives. The focus at this level is on operational art--the use of military forces to achieve strategic goals through the design, organization, and execution of campaigns and major operations. Operational art helps commanders use resources efficiently and effectively to achieve strategic objectives. *It provides a framework to assist commanders in ordering their thoughts when designing campaigns and major operations.* Operational art helps commanders understand the conditions for victory before seeking battle, thus avoiding unnecessary battles. Without operational art, war would be a set of disconnected engagements, with relative attrition the only measure of successor failure.[76]

Within this overarching framework, the 1993 FM 100-5 clearly perceives doctrine as the engine that drives the development of technology. "Doctrine seeks to be sufficiently broad and forward looking so that it rapidly accommodates major technological opportunities . . . . It sets the conditions to exploit technologies . . . ."[77] Implicit in this perception is the fact that even as the current national strategy calls for a policy of global engagement, the CONUS-based force projection that is replacing forward defense coupled with a simultaneous build-down in resources necessitate an optimizing of developing technologies. This relationship of technology to doctrine is

pervasive throughout the manual. Power projection, for instance, always runs the risk of the deploying force attacking too soon before the full component has arrived or waiting so long for that full deployment that initiative returns to the opponent. This risk can be mitigated, the FM points out, by using technology to perform such support functions as intelligence analysis and some logistics management from CONUS. The result is that more deployment space can be allocated to combat units--the type of leverage that one of the original authors of ALB has pointed out "is too great to ignore."[78]

The new doctrine has other strong ties to the past, retaining, for example, the orientation on offensive actions and the familiar tenets of agility, initiative, depth and synchronization. To this, in response to the changing international environment, has been added "versatility," which "denotes the ability to perform in many roles and environments during war and operations other than war."[79] Operations other than war (OOTW) can involve combat missions ranging from strikes and raids to peace enforcement as well as noncombat missions that could include disaster relief and civil support both at home and abroad. Force projections in such an environment might include entirely different successive missions for a unit, involving noncombat operations in wartime or actual combat in OOTW. The flexibility involved goes far beyond agility which emphasizes faster physical and mental reaction from the enemy. That tenet, the manual concludes, applies to a boxer; versatility to the decathlete. The U.S. Army, like the decathlete, is capable of rapid realignment and refocus on widely divergent missions because of discipline and training.[80]

In all this, the vertical continuum of war remains as the doctrinal construct. To begin with the manual draws upon the 1986 contention that the levels in that continuum are not concerned so much with the level of command or the size of the unit as with the planned outcome. "The intended purpose," the current manual points out," . . . determines whether an Army unit functions at the operational level."[81] From this position, the expansiveness of missions under "full dimensional operations" poses no doctrinal problems for the underlying framework. "The levels of war apply not only to war but also to operations other than war."[82]

This does not mean, however, that war's pride of place has been relinquished to OOTW. The introduction to the new manual emphasizes that the "primary focus is warfighting and how commanders put all the elements together to achieve victory at least cost to American soldiers."[83] The allusion to victory is also a standard linkage to past doctrines that is now applicable to full dimensional operations by an Army capable of "quick, decisive victory--*on and off the battlefield*--anywhere in the world and under virtually any conditions . . . ."[84] The expansion of this linkage was confirmed by one of the authors of the current doctrine, even as he emphasized the continuity. "The essential criterion . . . remains the same," James McDonough

concludes, "*victory*--or for operations other than war, *success*."[85] But there is no escaping the dominance of the warfighting imperative in the current FM 100-5.

> *The Army must be capable of achieving decisive victory.* The Army must maintain the capability to put overwhelming combat power on the battlefield to defeat all enemies through a total force effort. It produces forces of the highest quality, able to deploy rapidly, to fight, to sustain themselves, and to win quickly with minimum casualties. That is decisive victory.[86]

The Altered Framework.

The framework provided by the vertical continuum of war is changing. The Gulf War demonstrated the coalition's ability to use new technology to strike simultaneously at all three levels of war with what were normally considered strategic capabilities. For Iraq, these attacks across the entire nation paralyzed its military effort, with Iraqi forces compelled to operate throughout the country as if they were within visual range of the coalition military without any of the normal distinctions between rear, deep and close operations. "All of this means," one analysis concludes, "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."[87] The CSIS report on the military technological revolution agrees that the RMA "clearly holds the potential to blur or permanently erase, the distinction between tactical, theater and strategic war."[88] But the JCS *Doctrine for Joint Operations* is more cautious, preferring a balance of change and continuity.

> Advances in technology, information-age media reporting, and the compression of time-space relationships contribute to the growing interrelationships between the levels of war. The levels of war help commanders visualize a logical flow of operations, allocate resources, and assign tasks to the appropriate command. However, commanders at every level must be aware that in a world of constant, immediate communications, any single event may cut across the three levels.[89]

Figure 4 is the familiar depiction of the vertical continuum of war, with the darkened center area representing the operational art required to orchestrate the tactical events in area 1 to form the military conditions at the operational level that will achieve strategic objectives in area 2. Figure 5 depicts the more balanced approach to the future reflected in the JCS description. The expansion and overlap represents a trend that began earlier this century with the advent of mechanization, the radio and air forces. The checkered area demonstrates the future blurring of all three levels of war--the zone of

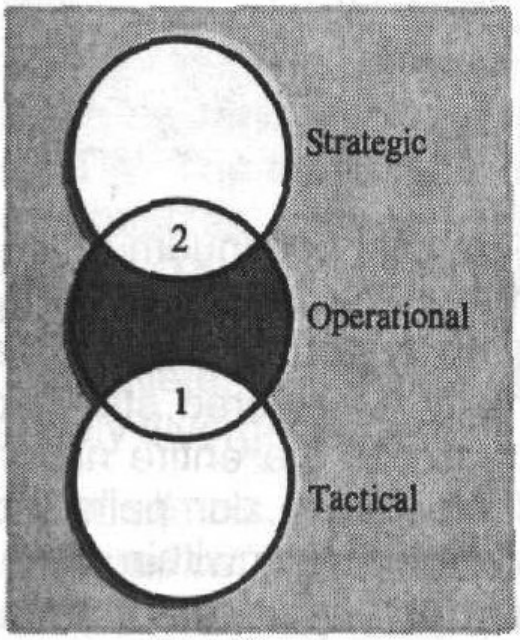

Figure 4.

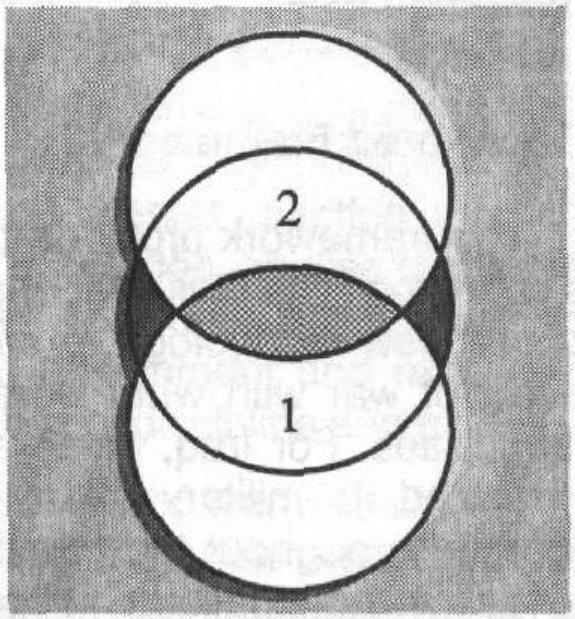

Figure 5.

integration and simultaneity. Finally, the darkened section is the traditional area of operational art focused on orchestrating the events in area 1 to achieve the objectives of area 2. The increased sizes of areas 1 and 2 represent the larger operational interaction with both strategy and tactics made possible by technological advances. But at the same time, the diminishment of the darkened section's size also represents the technologically compressed decision cycle of the operational commander working at magnified tempo in extended space. That commander will be faced with the much more complex job of recognizing those simultaneous strategic and tactical events that directly influence strategy and integrating them into the full synchronization calculation for those strategic objectives that result from the traditional consideration of what tactical battles and engagements to join or not to join at the operational level.[90]

The problems of the operational commander notwithstanding, the compression of the three levels has the potential to increase decisiveness in the vertical military continuum from the tactical to the national military strategic level, certainly against a technologically inferior opponent. But that decisiveness can be affected, as the JCS description also implies, by the communication-information revolution that has gathered speed in recent decades. Now the technology that has streamlined and compressed the vertical continuum has also added a horizontal dimension (Figure 6) that provides the potential for the military

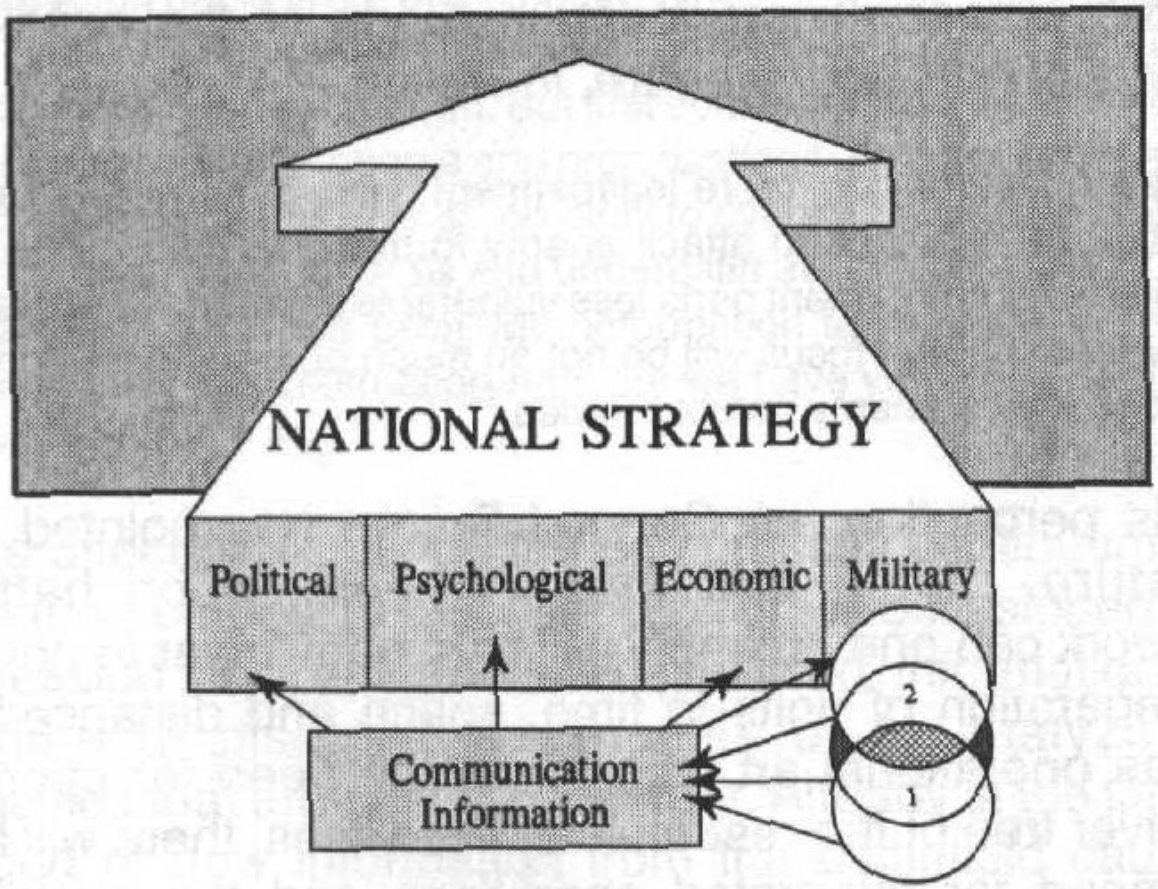

Figure 6.

at any level of war to influence national strategy directly. In the age of CNN, future wars and OOTW will occur in real time for both the American people and their policymakers. That this development can have positive results against an enemy was illustrated by the Gulf War. But the more pernicious results in terms of less favorable events up and down that continuum has a long history, whether it be the dismissal of Churchill from the Asquith government after the operational defeat at Galopoli, the decision of LBJ not to run for reelection as a result of TET, or the effects of the tactical loss of U.S. Army rangers in Somalia on the tenure of former Secretary of Defense Aspin.

All this means a growing complexity with shorter decision time for the operational commander. At the same time, the mid- and high-intensity war of the future will add to the emptying of the battlefield even as that field expands in spatial and intellectual terms. At the tactical level, the individual soldier

will be able to have a greater impact on events in this expanded battle space because of increased weapons lethality and an increased ability to direct accurately long-range precision fires. This, in turn, will offer more opportunities for the operational commander by increasing the connection between the tactical battle space and the operational area, whether it be the theater of war or the theater of operations. The result is a new JCS-approved approach to deep operations with a focus on functions not forces.[91] Previously, air theorists tended to limit the land attack to the actual combat between committed forces with anything beyond the range of organic fires belonging to the air commander. Now with permission for tactical commanders to pursue battle objectives by using either deep or close combat operations as the main effort, battles and engagements far beyond the forward line of friendly forces can decide major operations and campaigns.

This type of technology-enhanced maneuverability has been perceived as a key result of the RMA, marking the victory over the Clausewitzian linear methods of the past by the concepts of nonlinear warfare, in which

> smaller, fast moving, more independent units maneuver around a battlefield, coalesce to attack enemy formations, then melt away into smaller component parts less vulnerable to smart weapons. As in war at sea, the focus will be not so much on seizing territory as on destroying enemy combat forces.[92]

This perception, as General Franks has pointed out, is premature, noting that the "force-projection battlefield framework can and probably will vary from linear to nonlinear, with separation of units in time, space and distance."93 For even as operational art recognizes the need for operational maneuver free of the restraints of fixed lines, there will always be a need for integrated operations and the sustainment thereof. The combination is not new, only unfamiliar. In 1944, Field Marshal Slim used a combination of linear and nonlinear operations to gain and maintain the initiative in Burma. At that time, the British leader pulled the 14th Army back to the Imphal-Kohima plain and consolidated his lines by establishing a continuous front. This had the effect of drawing the Japanese army into a disadvantageous battle which Slim then exploited by initiating once again a bold nonlinear offensive that eventually produced victory.[94]

There is also nothing new in the role that technology will play in terms of communications up and down the compressed continuum of war. "From Plato to NATO," Martin van Creveld has pointed out in this regard, "the history of command in war consists essentially of an endless quest for certainty."[95] But that certainty is not necessarily enhanced by the quantum leap in technology which may now inflict Clausewitz's "fog of war" in the form of what General Starry has called "an operational

information glut."

> More information from more sources, made available more quickly than ever before, equals system overload. 'We're gonna kill 'em with silicon.' Unhappily we may kill ourselves with silicon unless we learn to get the right information to the right person at the right time in the right place. Processing and transmission technologies far outstrip our ability to assimilate, sort, and distribute information. The information genie is out of the bottle. Whether or not . . . enthusiasm for genie performance is soundly based remains to be seen. Serious dialogue is required. But first some serious research about how living systems--people and organizations--process information and make decisions. It is all too easy to overestimate what modern technology might do for us and underestimate what it can do to us; especially is this the case with information technology. We may indeed be in the Information Age, but we have yet to decide who's in charge![96]

The effect of all this on the compressed continuum of war can be momentous. Shorter decision times occasioned by that compression and electronically gathered information mean less time to discover ambiguities or to analyze those ambiguities that are already apparent. Already in the Gulf War, the flood of new information from the battlefield caused air commanders to switch one-fifth of all missions in the time between the printing of centralized air tasking orders and actual aircraft takeoff. Moreover, there is also the danger that the military in the future will become overly dependent on the type of detailed and accurate information provided in training that just may not be possible in the melee of war. With the verisimilitude of computer simulators and war games increasing, the paradox is that warriors in the future may find themselves all the more at a loss when reality differs sharply from a familiar cyberworld.[97]

Such communication trends in the vertical continuum also have implications for the national military strategy of CONUS-based force projection. If for example, U.S. forces in the future require ballistic missile support in Southwest Asia, why send such missiles when ICBMs with conventional warheads that will soon approach accuracies of near zero CEP can do the job without tying up strategic lift? Moreover, if theater based intelligence assets, command centers and battle management platforms become vulnerable to opponents, one solution may be the establishment of such assets in CONUS with real-time linkages to theater forces.[98] Such linkages were already in evidence in the Gulf War where communications technology subverted hierarchies up and down the continuum, even between the theater and the United States. That such developments could be inevitable as well as desirable was demonstrated by the NORAD staff in Colorado which relayed warnings of SCUD launchings to both Riyadh and Tel Aviv. And in

the same conflict, thanks to instant communications, much of the basis for CENTAF targeting came from the Air Force staff in the Pentagon, which kept up a flow of targeting information and proposals to the theater. This arrangement worked well for the undermanned and overworked air staff working for the CINC in Riyadh.[99]

All of this suggests even broader implications not only for such time honored military principles as unity of command and delegation of authority, but for the shibboleth of jointness as well. It would not be the first technological impact on jointness. In ancient times, for example, the galley ship operating in sight of land in the Mediterranean was a joint extension of land operations that ended with the development of sails and other concomitant ocean-going capabilities. And the increasing overlap of functions between the Services on the extended battlefield of the compressed continuum of war has an antecedent in the invention of the stirrup, which allowed the mounted warrior to use weapons and wear equipment heretofore associated exclusively with the foot soldier.[100] On a more modern note the image of Service staffs providing input directly to a CINC's staff does subvert the intent of the 1986 Goldwater-Nichols Act to make the warfighting theater CINCs semiautonomous, guided by only the broadest direction from the national military strategic level. On the other hand, as Elliot Cohen has observed, there should be some room in the future within the altered levels of war for the operational commander to deal directly with the individual services, "each of which can pool a great deal of operational expertise along with a common world view and an *esprit de corps* difficult to find among a melange of officers."[101]

The instantaneous flow of information up the vertical continuum also means that flag officers at the theater strategic and even the national military strategic levels may have access to the same information, or even more, as the forward deployed operational and tactical commanders. The temptation to move down that continuum will grow dramatically, particularly if augmented by the pressure of policymakers, already feeling the force of much of that information on the horizontal axis (Figure 6) exerted through the people. Direct political involvement in military affairs at all levels of war, of course, is not new nor even unfamiliar. Clausewitz even advocated such involvement, pointing out that political leaders in the cabinet must become more knowledgeable concerning technical military affairs.[102] And both Winston Churchill and Adolf Hitler regularly descended to the operational and tactical levels in World War II.[103] Finally, there was the insistence of the White House during the Vietnam conflict on reviewing, often choosing and approving air strikes on a daily basis. These are trends spawned by technologies that will increase, as General Odom has indicated, in quantum proportion to the changes in those technologies.

The implications of these technological changes have only been vaguely glimpsed, even within U.S. military

> circles. The most awesome one is that the kind of hour-by-hour and minute-by-minute coordination of target acquisition and the launching of strikes previously confined to division and corps headquarters and to tactical and strategic air commands within theaters must now occasionally be performed at the national level. In other words, the complexity of the 'tactical operations centers' facing battalions, brigades, and divisions in combat now confronts the National Military Command Center at the Pentagon.[104]

At the same time, as the Army Chief of Staff has pointed out, the integrative technology on the post-industrial battlefield will increase the tempo of action-reaction-counteraction and thus continue the necessity for initiative at lower command levels and for the concomitant decentralization of decisionmaking.[105] Many studies agree, foreseeing that combat units will become, if anything, more autonomous and self-sustaining, that in the Third Wave military, like the Third Wave Corporation, "decisional authority is being pushed to the lowest level possible."[106] If so, as the time streams indicate, the picture of the small unit leader operating independently under a commander's intent in the nirvana of pure *Auftragstaktik*, will not be easy to create. Other images intrude: General Guderian ceasing to transmit by radio during the 1940 invasion of France to forestall interference by higher headquarters; helicopters containing battalion, brigade and even division commanders and their staffs stacked in the air above a company level fire fight in Vietnam. All in all, as General Odom has observed, enhanced communication throughout the compressed levels of war is "an advantage that can just as easily introduce confusion and become a liability."[107]

Warfighting vs. Operations Other Than War.

The technological compression of the three vertical levels applies to OOTW as well as war, the former primarily due to the types of missions and advances in communications, the latter to advances in weapons and equipment as well as in communication. Thus, a former high level U.N. official could point out that in peacekeeping and peace-enforcement operations, "you require political direction every time you move a sentry post."[108] This strategic dominance allows the vertical framework to work as a doctrinal basis in both arenas. Actions at the operational level of war, James McDonough concludes in this regard, "are more likely these days to occur across the spectrum of peace, crisis, and war. Their commonality and their place in operational art is fixed by their focused pursuit of strategic objectives."[109] That commonality is an important factor in an increasingly complex military environment of shifting scenarios and rules of engagement--a situation captured over a century ago by Lewis Carroll.

> "You will observe the Rules of Battle, of course?" the White Knight remarked, putting on his helmet too. "I always do," said the Red Knight, and they began banging away at each other with such fury that Alice got behind a tree to be out of the way of the blows. "I wonder, now, what the Rules of Battle are," she said to herself . . . .[110]

The U.S. military is currently producing a host of doctrinal manuals dealing with all categories of OOTW. This focus on OOTW is a direct result of the end of the cold war--the long twilight conflict that kept attention on the core relationship between the superpowers and only occasionally on the periphery in the so-called Third World, a categorization of nation-states that even owed its origins to the bipolar nature of the international system. In that world, the absence of superpower war was not synonymous with global peace; nor was the absence of system transformation through war translated into global stability. Instead, recurrent violence in an unstable "peripheral" system occurred alongside a stable "central" system, with an estimated 127 wars and over 21 million war-related deaths taking place in the developing world during the cold war. Now, the United States and other Western industrialized democracies, comprising less than 13 percent of the global population, have turned their attention on that developing world where in substantial parts chaos is likely to dominate for the foreseeable future. As a result, the principal post-cold war preoccupation of the United States in terms of OOTW has been peace operations despite the many other types of operations included in that category by current U.S. military doctrine.[111]

Peace operations in the current doctrine encompass three types of activities: diplomacy, peacekeeping and peace-enforcement.[112] Classical peacekeeping was a cold war expedient that overcame some of the disabling aspects of the bipolar rivalry by relying on a token U.N. presence and the consent of opposing parties rather than on military effectiveness. This traditional capability was firmly grounded in Chapter VI of the U.N. Charter which focused on pacific settlements of disputes. Where such settlements failed, the enforcement mechanisms under Chapter VII were designed to marshall the use of collective force among the global powers--all reminiscent of World War II. But the Security Council could not agree during the cold war on any aspect of collective enforcement; and peacekeeping thus evolved as an expedient, less powerful instrument which could be used within the zero-sum environment of the superpowers. This meant in turn that peacekeeping had limitations that proscribed its wider use--that forces acting under its charter, unlike combat units, could very seldom create the conditions for their own success. Those limitations, evolving from practical experience in the cold war and now enshrined in current U.S. military doctrine, include the use of force only in self-defense and, most important, the consent of all local belligerents. Peacekeeping forces, one analysis concluded, are like a referee whose success depends "on

the consent of the players and their understanding of the rules of the game but never on the pugilistic skills of the referee himself."[113]

Since the end of the cold war, a "second generation" of U.N. military operations has emerged under a rejuvenated category of peace-enforcement which can include the protection of humanitarian assistance, the guarantee of sanctions, and the forcible separation of belligerents. In this environment, consent is not likely and there is an increasing need for more military power, effectiveness, and capability to exercise a wide range of military responses. Unfortunately, peacekeeping during the cold war elicited a price for the United Nation's institutional competence in this regard. Consent in that era meant that there were no enemies, and with no enemies there was little pressure on the U.N. to be militarily effective. And with the stalemate in the Security Council, there was no incentive on the part of the member states to improve military competence. As a result, the Military Staff Committee was stillborn; and ad hocracy in the absence of "lessons learned" became the order of the day for U.N. operations.[114]

Doctrine for peacekeeping and peace-enforcement operations is closely tied to the development of U.S. post-cold war national security strategy, particularly, as Bosnia and Somalia have demonstrated, concerning the issue of multilateralism versus unilateralism. In the Bush administration, the U.S. military's base force concept still reflected in the absence of a specific threat the cold war desire to strike a balance between those two concepts. That in turn guaranteed that force requirements would exceed peace dividend expectations--a trend in the face of uncertain regional threats increasingly hard to justify with generic color plans. "I'm running out of villains," General Powell remarked in this regard. "I'm down to Fidel Castro and Kim Il Sung . . . ."[115] Nevertheless, as Secretary Cheney indicated in his *Defense Strategy for the 1990s*, the balance remained:

> The perceived capability--which depends upon the actual ability--of the United States to act independently, if necessary, is thus an important factor even in those cases where we do not actually use it. It will not always be incumbent upon us to assume a leadership role. In some cases, we will promote the assumption of leadership by others, such as the United Nations or other regional organizations.
>
> In the end, there is no contradiction between U.S. leadership and multilateral action; history shows precisely that U.S. leadership is the necessary prerequisite for effective international action. A future President will need options allowing him to lead and, where the international reaction proves sluggish or inadequate, to act independently to protect our critical interests.[116]

For the U.S. military, as we have seen, the doctrine of combined arms warfighting whether in a unilateral or multilateral environment will govern the shaping of the RMA. The goal is to modify and create technologies and force structures within the overarching doctrinal framework that adds to warfighting effectiveness, while enhancing, or at the very least not diminishing, OOTW capabilities. Certainly in the conventional sense, for example, there is much to be learned in terms of strategic mobility and organizational effectiveness from humanitarian operations such as "Provide Comfort" in northern Iraq or "Sea Angel" in Bangladesh. The crossover becomes more explicit as the potential level of violence rises. "Since operations other than war do not necessarily exclude combat," General Franks has pointed out, "how to think about planning and executing those operations builds on the skills, toughness and teamwork gained from the primary focus of our doctrine--warfighting."[117]

The value of this overarching framework was evident in the Somalia operation. At the tactical level, the American forces primarily dealt with their mission-essential and battle tasks which included operations ranging from air assaults, patrolling, cordon and searches, and security operations, to those oriented on infrastructure repairs, civil affairs, and PSYOP. The operations were "synchronized," in the U.S. division commander's description, at an operational level which "tended to be complex, with numerous players (joint, combined, political and NGOs) involved and great uncertainty as to who the 'good guys' were."[118] That notwithstanding, he remained sanguine about the crossover ability within the doctrinal framework: "Well-trained, combat-ready, disciplined soldiers can easily adapt to peacekeeping or peace enforcement missions. Train them for war; they adapt quickly and easily to Somalia-type operations."[119]

In all this, technologies from the RMA will certainly play a role. Those contributing to information dominance will be particularly important, since a major challenge in many forms of OOTW is to identify the enemy. Some technologies may emerge in the areas of arms control verification and space-based communications; others may range from sensors to nonlethal and robotic weapons. The total effect of such potential trends suggests to the Tofflers "that the new, Third Wave war form may in time prove to be just as powerful against guerrillas and small-scale opponents waging First Wave war as against Iraq-style Second Wave armies."[120]

Technology, however, cannot completely bridge the gap between warfighting and OOTW in a period of declining resources. Stripping a division of major units to participate in a Somali-type operation is bound to have serious readiness repercussions. Even the long standing Multinational Force Observer (MFO) requirement in the Sinai requires extensive preparation for the mission and retraining upon completion. Moreover, there are still

the questions concerning the psychological effects of prolonged peacekeeping operations on the warfighter's determination to kill and to win.[121] In the end, the rationale returns full circle to the tenet of "versatility" and the doctrinal priority based upon the primary national military strategic focus on regional conflict. "A professional, highly trained military with the human and industrial capital needed to remain ready for regional wars will be better able to gear up for a larger conflict than a military designed to fight lower-intensity wars."[122]

It is a rationale that has grown increasingly controversial in the full flush of enthusiasm for multilateralism by the Clinton administration. "The military people haven't looked at the considerable middle zone between [Desert Storm] and no action," a State Department official commented as Bosnia heated up. "We need a new approach to peacekeeping . . . . By foreclosing options, the military will get pushed in much later."[123] For Paul Bracken, the controversy itself is irrelevant, since the choices are irrelevant. On the one hand there is warfighting against "B" competitors, "mid-level developing states with modernized conventional forces (much like Iraq in 1990), with the possibility of Model T nuclear, chemical and biological (NBC) forces." On the other, there is what is essentially OOTW against "C" competitors, "militarily ineffectual nations with complex or complicated security problems: ethnic civil war (Yugoslavia), insurgency (Peru), terrorism (Egypt), civil disorder (Somalia), or infiltration (narcotic flows)." Bracken's advice is to avoid the messy "C" states and elevate the doctrine that is driving the RMA to deal with the "terra incognita" of potential "A" nations, "peer competitors, or major regional competitors with which the United States may have to deal." In the future, "B" countries may graduate to this level by a combination of training, doctrine, and the availability worldwide of advanced military technologies, to include weapons of mass destruction. In any event, an emergent "A" state may not have a direct adverse effect on U.S. interests, but like Germany after 1870, might so upset a regional balance as to affect those interests.[124]

Finally, there are those like the analysts at the Henry Stimson Center, who see resources as the key to the warfighting-OOTW dichotomy. Peace operation needs, they believe, require the creation of forces that could eventually include two specially configured Army light divisions and a half dozen independent, specialized battalions for monitoring operations. These units would be placed under a specified Army Peacekeeping Command, created to develop doctrine, specialized training and unique equipment for international peacekeeping. These forces, the authors emphasize, would be "additive to needs for unilateral capabilities," that is "*considered a supplemental requirement and in force planning be added to whatever forces are believed to be necessary to protect U.S. interests unilaterally through traditional types of military operations*."[125] That such an approach in an era of resource constraints would find little

favor in the current administration is self-evident. The administration initially embraced "assertive multilateralism"--what one author has termed "a kind of poor man's internationalism," the idea of keeping the U.N. as a credible alternative to Pax-Americana to keep defense costs under control. International events have since disabused the Clinton White House of this notion as well as its concomitant, the idea that it could prove to be an "isolationist's internationalism," allowing international action without the exertion of American power.[126] And, in fact, in an article that apparently presages the long-awaited Presidential Decision Directive on the subject, the Assistant to the President for National Security Affairs recently returned to the core of the strategic priority driving U.S. military doctrine as the RMA progresses:

> Let us be clear: peacekeeping is not at the center of our foreign or defense policy. Our armed forces' primary mission is not to conduct peace operations but to win wars. The bottom-up review of our post-cold war defense requirements insures that we remain prepared to do that . . . . We will never compromise military readiness to support peacekeeping. Nor would we hesitate to end our engagement in a peace operation if that were necessary to concentrate our forces against an adversary in a major conflict.[127]

CHAPTER 4

THE SOCIOPOLITICAL DIMENSION

Samuel Huntington outlined two types of civil-military relations in his classic *The Soldier and the State*. Subjective civilian control is achieved by civilianizing the military, making the armed forces the mirror of the state.[128] For some analysts, this occurred in Washington during the creation and buildup of the national security state in the cold war, causing traditional suspicions of a standing military to shift to the Military Industrial Complex with the New Model Army consisting of the Pentagon, the defense industry and the Congress, complemented by "Beltway Bandits," defense research committees and think tanks. One result, as Alex Roland pointed out, was:

> a stalemate of experts, civilians in the services matched against colleagues in the White House and Congress. Officers have advanced degrees. Congressmen are reserve officers. All wear business suits in Washington. The Pentagon is politicized, and policy formulation is militarized.[129]

Objective civilian control, on the other hand, depends on achieving an equilibrium between the power of the military and the ideology of the society. In this construct, the issue is the power of the officer corps relative to civilian elites within society balanced against the compatibility of the professional military ethic with the political ideologies prevailing in society. Thus, there was very little objective civilian control in the period between the Civil War and World War II, in which with few threats to the security of American society, there were both antimilitary ideology and low military-political power, countered only by the high military professionalism of armed forces increasingly separate from society. These variables oscillated for the American armed forces during the cold war, reaching a zenith in the Reagan years much like that of the 1860-90 Prussian cum German military, with an objective balance between military and political power within the government and an unparalled peacetime military-societal compatibility--all of which maximized the professionalism of the American military. The nadir concerning the mix of all three variables in this period was Vietnam. That conflict exposed not only fundamental rifts between civilian and military leaders, but the psychological gap that had opened up between the armed forces and the American people. "The country that sent us off to war was not there to welcome us home," two veterans observed in a recent best selling account of that conflict. "It no longer existed. We answered the call of one President who was now dead; we followed the orders of another who would be hounded out of office, and haunted by the war he mismanaged so badly."[130]

The civil-military problems in that war stemmed in part from the civilian crisis management success of the Cuban missile

crisis. The result of that event seemed very Clausewitzian: extreme centralized political control over the selection, timing and coordination of military moves down to the lowest tactical levels. The problem was that the crisis management school focused only on deterrence in terms of coercive diplomacy and signaling, with conventional forces, like their nuclear counterparts, having utility only in their non-use. There was, as a consequence, no attempt to think through the problems of actually using force for political ends--the essence of Clausewitz's most famous dictum.

> For the crisis management theorist, the threatened (or even the real) use of force serves only as a means of communication with one's opponent. He rejects or ignores other uses of force, for example as a means of affecting the enemy's will, or simply of denying him possession of that which he desires. This restrictive understanding reduces strategy to applied cognitive psychology, or even the art of non-verbal communication.[131]

The result of all this in Vietnam was the "gradual squeeze," using the weight of American air power combined with the commitment of ground forces to signal U.S. resolve. One consequence was that the initial incremental projection of American forces had very little relationship to any strategic conception of their use; and President Johnson's personal selection of bombing targets came to symbolize not only the tightly controlled escalation of the air war over Vietnam, but the overall tightly centralized decisionmaking so symptomatic of the crisis managers. Another consequence, as we have seen, was a renewed doctrinal focus by the military on the vertical continuum of war and on the need for a sustained iterative civil-military interface at the dominant strategic level on that continuum. "As military professionals we must speak out," General Weyand reminded the Army, "we must counsel our political leaders and alert the American public that there is no such thing as a 'splendid little war.' There is no such thing as a war fought on the cheap . . . . The Army must make the price of involvement clear before we get involved, so that America can weigh the probable costs of involvement against the dangers of noninvolvement."[132]

The reference to the American public also demonstrated a renewed appreciation by the military of this third part of the Clausewitzian trinity. In both Korea and Vietnam, the public provided a high degree of initial support that declined as casualties mounted and victory prospects in the conventional sense dimmed--but also, as Eliot Cohen observed, "surprisingly slowly." "Indeed," he concluded, "it is remarkable that it was not until after three years of combat--in the case of Vietnam until 1968--that a majority of the American public finally turned against the War."[133] For Vietnam by that time, much of the centrist antiwar sentiment stemmed simply from frustration at the inability to bring the war to a victorious and reasonably quick

conclusion. "No kind of greatness," Alexis de Tocqueville had observed in this regard over a century prior to the Vietnam conflict, "is more pleasing to the imagination of a democratic people than military greatness which is brilliant and sudden . . . ."[134]

The post-Vietnam military concerns with the other two-thirds of the Clausewitzian trinity found political expression in a 1984 speech by the Secretary of Defense outlining six criteria for commitment of U.S. troops abroad. The focus of Secretary Weinberger's speech was the Vietnam experience, but it was also, in fact, a reaction to another form of failed OOTW, the Marine disaster in Lebanon as part of Multinational Force 2. Under this so-called "Weinberger Doctrine," force would be used as a last resort and with the clear intention of winning--but only when the vital interests of the United States and its allies were threatened. There must also be clearly defined political and military objectives combined with the knowledge of how the U.S. forces could accomplish those objectives. "War may be different today than in Clausewitz's time, but the need for a well-defined objective and a consistent strategy is still essential." Moreover, the relationship between political and military objectives and the size and composition of the forces committed must be continually reassessed and adjusted if necessary with, as a constant "beacon light," the basic question: "Is this conflict in our national interest?" Finally, there was the requirement for the reasonable assurance of support by the American people and their elected representatives in Congress. "We cannot fight a battle . . . at home while asking our troops to win a war overseas or, as in the case of Vietnam, in effect asking our troops not to win, but just to be there."[135]

In recent years as the Somalian and Bosnian situations heated up, the Weinberger Doctrine was reinforced by the U.S. military's formulation of what came to be called "Overwhelming" or "Invincible Force" doctrine--an absolutist position focused on decisive victory, critics charged, "that suggests that America's political and military leaders lack the judgement to distinguish between the Boxer Rebellion and Vietnam while spending $290 billion a year for defense."[136] General Bernard Trainor was equally direct. "If you're only going to use the great military capability we have in a clinical operation that is going to be short, bloodless and victorious," he noted, "one has to question whether that force doesn't become irrelevant in the confused world we are seeing."[137] General Powell's reply to such criticisms demonstrated a clear audit trail back to the earlier doctrine. "The reason for our success," he stated, referring to recent American military operations, "is that in every instance we have carefully matched the use of military force to our political objectives."

> Decisive means and results are always to be preferred, even if they are not always possible. So you bet I get nervous when so-called experts suggest that all we need

> is a little surgical bombing or a limited attack. When the desired result isn't obtained, a new set of experts then comes forward with talk of a little escalation. History has not been kind to this approach.[138]

It is a controversy that is part of the U.S. military's current doctrinal dilemma concerning warfighting and OOTW--one that was defined almost a decade ago by Secretary of State Shultz in his reply to the Weinberger Doctrine, but muted at the time by the cold war. In a complex world, Shultz pointed out, there were also "grey-area challenges" in regional and local conflicts that were often far removed from major war but nonetheless had important cumulative effects on American credibility.

> We live as is commonly said, on a shrinking planet and in a world of increasing interdependence. We have an important stake in the health of the world economy and in the overall condition of global security; the freedom and safety of our fellow human beings will always impinge upon our moral consciousness. *Not all these challenges threaten vital interests, but at the same time an accumulation of successful challenges can add up to a major adverse change in the geo-political balance* . . . . American military power should be resorted to only if the stakes justify it, if other means are not available, and then only in a manner appropriate to the objective. But we cannot opt out of every contest. If we do, the world's future will be determined by others--most likely by those who are the most brutal, the most unscrupulous and the most hostile to our deeply held principles.[139]

The Use of Force.

A report on the RMA concludes that "even in major regional engagements and certainly in peacekeeping or other unconventional missions, the American and world publics will expect relatively clean operations, cheap in terms of U.S. lives lost . . . and the damage done to local society."[140] Implicit in this statement is the subtle shift in the rationale for high technology that emerged from the Gulf War. During the cold war, the promotion of technology had been primarily linked to solving the West's problems with the overwhelming preponderance of the Soviet forces. In the conflict with Iraq, however, technology was linked to the saving of American and Allied lives. This rationale has lingered as the U.S. military moves forward with a national military strategy focused on regional contingencies, the response to which, former Secretary of Defense Cheney pointed out, "must be decisive, requiring the . . . technological edge to win quickly and with minimum casualties."[141]

All this confirms changes in outlook underway since the Vietnam, if not the Korean War. Throughout most of America's

history, as battles from Antietam to Iwo Jima attest, minimizing U.S. casualties was considered a desirable but hardly necessary goal for achieving victory. And in fact the traditional criticism of the American strategic way of war was that it emphasized attrition and ignored maneuver and guile. That this aspect has changed and will affect future conflicts was summarized in the 1991 CSIS after-action report on the Gulf War.

> The scale of casualties deemed acceptable will vary with the nature of the war. But it is an important question whether U.S. citizens will accept far-flung military operations if casualties are high. There was great concern in Washington--and great hope in Baghdad--that public support in the United States for the Gulf War would evaporate when the first 10,000 Americans fell in battle. And if, as in this case, the *outcome* of the war is never in doubt and the only question is how many Americans give their lives to bring about victory, then the priorities of U.S. military operations--and in turn, defense procurement strategies--will change.[142]

Such considerations will be bypassed by the military-technical revolution, a subsequent CSIS report on the MTR promises. That revolution will in fact expand the utility of force easing the constraints on American policymakers by a democratic society, particularly those dealing with the interrelated subjects of friendly casualties, combat decisiveness, and widespread collateral damage. War in the age of the MTR, in other words, will be non-trinitarian in the sense that a low cost, *Blitzkrieg*-type operation will make a satisfied public a non-factor, allowing the use of force not just as a last resort, but as an active instrument designed solely for the United States to shape the evolving world order. "When the U.S. interests at stake in a crisis or war are less than obvious to the public," the study concludes in this regard, "the promise of a less destructive operation will allow U.S. leaders to wield their military instrument more efficiently."

> With an RMA force, U.S. leaders will be increasingly free to conduct such operations without assuming massive risks. The RMA will render the military instrument more effective by reducing the costs of military operations, both to the United States and to its adversaries, and will thereby help mitigate the constraints on military operations imposed by media coverage and public opinion.[143]

Much of this reflects what the Tofflers have called the "growing fictionalization of reality," in which the Gulf War comes across as a gigantic simulation.[144] And yet at the same time, they emphasize that "de-massified destruction, custom-tailored to minimize collateral damage, will increasingly dominate the zones of battle . . . ."[145] Certainly in the wake of the Gulf War and with more discussion of the MTR and now the RMA,

the general international and domestic public expectation is that precision weapons will allow the conduct of wars with far less collateral damage. But this proved chimerical in a conflict that revealed the potential fragility of the physical infrastructure of modern economics. For the air campaign directed primarily at Iraqi military forces also devastated that country's communications, transportation and civil services, the latter ranging from the supply of water and electricity to the provision of health care. All this had further malevolent effects in the form of malnutrition and disease far removed from the antiseptic of precision weapons.[146]

These indirect effects notwithstanding, the role of air power in the Gulf clearly reflected the emerging rationale for technology as the means to provide quick decisive victory at very little human cost. This preoccupation with limiting casualties in the age of CNN meant that even enemy dead, as the "Highway of Death" demonstrated in living color, would not be palatable to the American people. All this has been reinforced by RMA studies which predict the arrival of so-called nonlethal or disabling technologies as part of the key to a near bloodless future use of force in warfare. The ideal, at least for some air power enthusiasts, would be a return to a type of 18th century warfare in Europe in which mercenary armies operated in isolation from society. But as we have seen, that age was not really marked by strategic decisiveness; and in any event, war and society have moved even closer over the centuries. Technological change, even that envisaged by the most ardent believers in the RMA, will not be enough to cause a reappearance of such a separation. And in fact air power, for all its uniqueness in the history of warfare, serves as a useful reminder that continuity is still vital to any changes that emerge as the RMA progresses, and that in particular,

> glib talk of revolutionary change obscures the organization impediments to truly radical change in the conduct of war and, worse, its inherent messiness and brutality. In the end, students of air power will serve the country well by putting the Persian Gulf War in a larger context, one in which the gloomy wisdom of Sherman tempers the brisk enthusiasm of those who see air power as a shining sword, effortlessly wielded, that can create and preserve a just and peaceful world order.[147]

Unlike the air power enthusiasts, the U.S. Army continues to emphasize its linkages with society and has in fact incorporated those connections into doctrine. In a section entitled "The American Way of War," the current FM 100-5 emphasizes that

> the people expect the military to accomplish its missions in compliance with national values. The American people expect decisive victory and abhor unnecessary casualties. They prefer quick resolution of

> conflicts and reserve the right to reconsider their support should any of these conditions not be met . . . . In the end, the people will pass judgment on the appropriateness of the conduct and use of military operations. Their values and expectations must be met.[148]

Those expectations are generally high due to the Allied victory in the Gulf War coupled with the information-enhanced horizontal linkage of the public to the vertical continuum of that conflict. And certainly, although it remains conjectural, these expectations are tied to a great extent into a further expectation that technology will continue to be decisive in maximizing the desired outcomes.

Figure 7 demonstrates one aspect of the interplay of these variables. In Quadrant 4 there is no problem: low expectations are matched by low technical capability. This was generally the situation during World War II, in which low public expectations in terms of warfighting decisiveness were generally matched until August 6, 1945 by the inability of technology to make a sudden breakthrough. Quadrants 2 and 1 also pose no problems, since high technological capability will satisfy either high or low expectations. The public relief at the beginning of Desert Storm

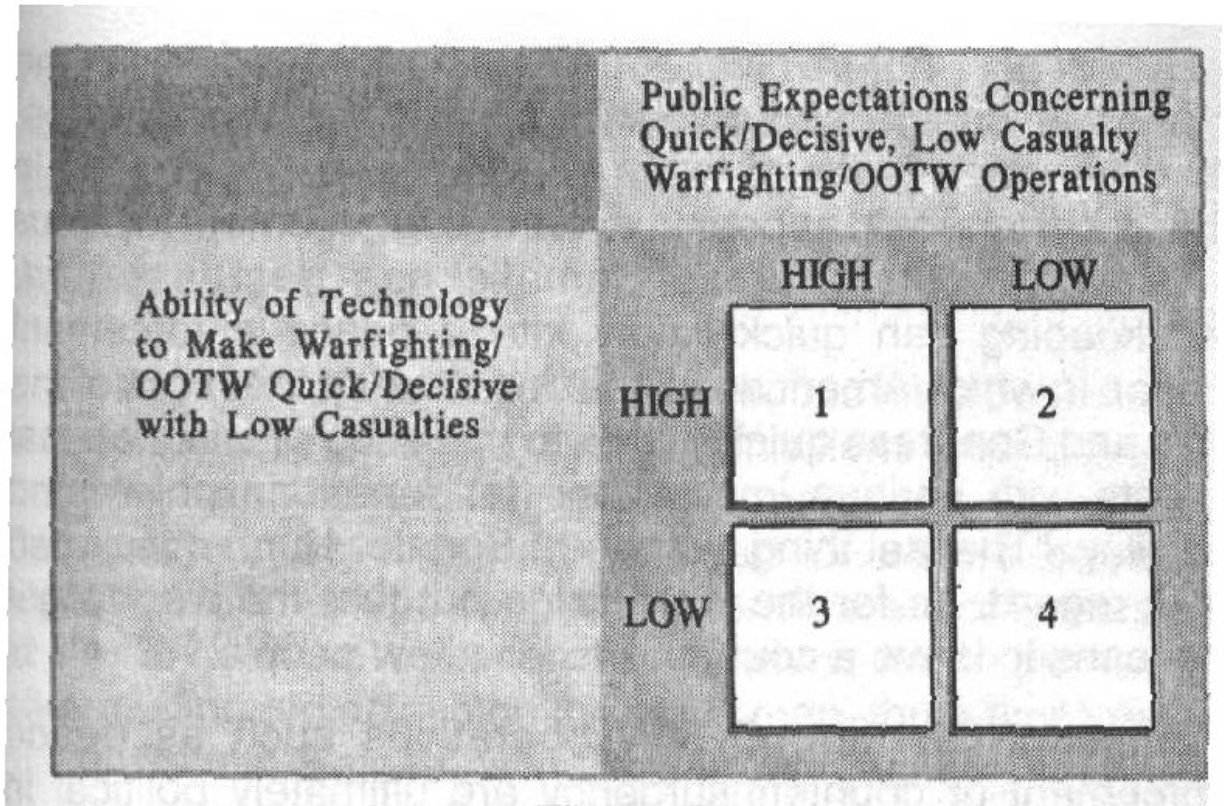

Figure 7.

demonstrates a Quadrant 2 situation, which by the end of that conflict had moved to Quadrant 1. The latter situation marks the permanent position for the United States in an ideal realization of all that the RMA could portend for the future.

Quadrant 3 poses the most problems in terms of warfighting. The result can be a World War I type situation in which the public either has to be disabused of its expectations and mobilized for greater and longer efforts after the conflict begins, or allowed to exercise its national will for withdrawal. Ideally for the American people, the civil-military interplay that would include consideration of Weinberger doctrine criteria as well as the concept of overwhelming force would preclude a situation in which such a choice would have to be made after initiation of hostilities. In any event, the United States is unlikely to lose its technological edge concerning conventional warfighting in the near future and move into the third quadrant. But the effectiveness of that edge is by no means assured for OOTW operations. Moreover there is no such doctrinal buffer for most such operations, which will not necessarily and in most cases probably not involve vital interests, defined under the Weinberger criteria as sufficient to justify the use of force. There are some types of these operations, peacekeeping in particular, that would appear to avoid this requirement for focus on vital interests. But as Somalia has demonstrated, peacekeeping can quickly flow into a peace-enforcement situation in which American casualties can turn the focus of the public and Congress quickly back to the issue of vital national interests with serious implications for American policy and credibility. "The last thing we need," Senator Nunn concluded in this regard, "is for the word to go out that the way to get Americans to leave a country is to kill a few people."[149]

Equally important, OOTW operations such as peace-enforcement or counterinsurgency are ultimately political in their foundation even if conducted by the military. Thus, as we have seen, leading edge technology is unlikely to allow military effectiveness to transcend this foundation where "the finesse and expertise that are the hallmarks of modern military professionalism count far less than persistence and pure bloody-mindness."[150] This means that such operations are unlikely to be completed in an expeditious manner, certainly in a time frame acceptable to the American public and in terms of victory defined in military activist vocabulary. "No democratic society . . . can fight a fifty-year war," Douglas Pike concluded in this regard from his long experience in Vietnam.[151]

In the end, the nature of most OOTW operations means that with the possible exception of the principle of last resort, the basic tenets of the Weinberger Doctrine will not apply in the application of force. This is particularly true of the most likely and most contentious of these operations likely to involve

the United States: peacekeeping and peace-enforcement. U.S. vital interests will probably not be at stake; political and military objectives will be vague and elusive as will the meaning of victory; the military forces may become inappropriate as missions shift; and for all these reasons as well as the inconclusive and prolonged nature of these essentially political cum military operations, there will be no sustaining public support. Finally, given this political nature, the doctrine of rapid, massive overwhelming force is unlikely to help and may, in fact, be counterproductive in situations that in many cases call for restraint and discretion in the application of force.[152]

Interests and Credibility.

In the wake of the Gulf War, U.S. troops have been involved in astonishingly wide and divergent missions around the world ranging from humanitarian relief operations like "Provide Comfort" to deterring the spread of ethnic conflict in Macedonia. This type of activity is reminiscent of Great Britain at the end of the Victorian era in which its empire was an all-engulfing red splash on the world map--three times the size of the Roman Empire, with London representing what Rome had once been, *caput mundi*, the head of the world. Because of that empire, successive British governments believed that it was imperative to do something about each outbreak of chaos anywhere in the world, sometimes motivated by a fear that local conflicts might spiral, and other times by a perception that inaction might damage London's credibility in the various regions of the world. As a result, two historians of the age of imperialism noted, "once remote and petty interests in the Sudan, Uganda, and the northern hinterlands of the Zanzibar were changing into safeguards of Britain's world power."[153]

In 1881 at the height of British power, however, the ascendancy of Germany began to alter the European balance of power. But the United Kingdom and France, the two countries that should have been the most concerned with this alteration, were distracted to a great degree from this primary security problem by a constant series of crises in Asia and Africa. Ironically, this lack of attentiveness was to the very core conditions that had ushered in an era of European peace and prosperity, thus allowing both nations to pursue imperialism in the first place. By the time Britain and France refocused their attention from the periphery to the core after the turn of the century, it was too late.

Thinking in such time streams suggests a need for prioritization of effort. This need has traditionally been met by national interests that represent by descriptive degrees on a continuum of intensity (e.g., vital, important, peripheral) the willingness of national actors to use national power to achieve objectives derived from those interests. Thus, as represented in the Weinberger Doctrine, a vital interest is defined as the only

one for which the United States would be willing to use military force. This linkage had a distinctly cold war character since the use of American military power in any situation during that period carried the risk of confrontation with the USSR and consequently an escalation of conflict that could threaten the nation's survival. That such definitions could have a subjective, almost circular character to them was illustrated by the 1950 invasion of South Korea, the survival of which had been defined as outside vital U.S. interests but which, because of the nature of the attack, quickly joined that category. All that notwithstanding, the degree of intensity of national interests is still a reliable relative guide--useful, as an example, in the case of Bosnia as a reminder that continuity is not always a product of time streams. "It is important to understand," one analyst commented, "that conflict in the Balkans led to a general European war in 1914 because the great powers cared *too much* about instability in the Balkans; today they care *too little*. This may cause many problems, but it cannot cause a general war."[154]

The use of national interests for prioritization is particularly important in terms of deterrence. The basis for conventional deterrence, like that of nuclear, has always been credibility--the combination of capability and the willingness to use that capability. "Usually the most convincing way to look willing," Herman Kahn once pointed out about the latter, "is to be willing."[155] Commitment is thus an important adjunct of that will. But as Thomas Shelling demonstrated long ago, if the depth of the commitment exceeds the depth (that is, intensity) of the national interests at stake, the element of commitment is jeopardized.[156] Vietnam, of course, was the ultimate example of how closely commitment can be tied with credibility. U.S. policy toward that country was motivated at least partially by the determination to be perceived as a reliable protector--a key link to the seamless web of containment. Credibility in the context of East-West relations, in other words, became an interest in itself. The problem was that the scale of commitment to that country failed to achieve some plausible proportionality and linkage to its intrinsic value to the United States--a value that American policymakers declared with ever decreasing credibility to the Home Front.[157]

Credibility is an even more amorphous concept in the new international order where there is no great enemy and where local conflicts in the absence of an East-West conflict are for the most part really local. In this environment, the United States does not lose credibility with every decision not to intervene in foreign crises. Instead, what is required for credibility is the careful choice of interests, the vigilant protection of those interests, and, above all, the issuance of only those threats and promises concerning these interests that will be fulfilled. In the past, it has been the casual use by the United States of threats and promises that has damaged its credibility.[158]

Prioritization is also particularly important in an era of declining resources in which, as a recent Rand study indicated, "the issue of 'How Much Is Enough?' has been replaced by 'How Little Is Enough?' as the central issue concerning future military strategy . . . ."[159] The key in this regard is not to jeopardize America's unique warfighting capability, an essential pillar for global stability, by taking on OOTW missions that any nation can perform, particularly those involving peace operations. Just because the Soviet threat has disappeared, doesn't mean that many of the issues, conflicts and problems of small countries or failed states are any more closely linked with U.S. vital or important interests than they were in the cold war. The periphery is still the periphery; and any rational calculation of national interests points to a national security prioritization that focuses on Paul Bracken's potential "A" category peer competitors as well as any "B" level rogue states capable of attempts at regional hegemony. The "C" category world of OOTW will simply not meet the strict cost-effectiveness in this rational environment.[160]

Ultimately, that world cannot be divorced from either the costs or the likely success of a mission. After all, the United States refrained from intervention to aid Hungary in 1956 and Czechoslovakia in 1968 because the dangers seemed exorbitant despite the fact that the independence of those countries from the Soviet Union was a desired goal. In a similar manner, the most salient argument against the Vietnam War was not that the spread of Communism in Indochina was tolerable, but that the costs of preventing its spread were prohibitive. This is not to say that the American polity is unwilling to expend American lives in furtherance of, for example, an humanitarian mission. The bombing of the rail lines to Auschwitz, for example, might have cost the lives of some U.S. airmen. And American casualties would certainly have resulted from any attempts to stop Pol Pot's "Killing Fields." But the fact that these two cases are the most frequently cited for humanitarian operations also suggests that there must be a very high threshold in rational cost effectiveness for expending American lives in this type of intervention.[161]

The post-cold war international arena, however, is not a purely rational environment. The United States is in an Indian summer in national security in which there are no major threats to its vital interests or those of its allies. At the same time, as we have seen, the instability on the "periphery" that marked the cold war has not diminished, but is now in fact embellished for the American public by instantaneous global communications. One result has been a policy shift in terms of the use of military force. As he left office, President Bush pointed out in a major speech that such use must be considered on a case-by-case basis without "rigid criteria" that "would give would-be troublemakers a blueprint for determining their own action." "The relative importance of an interest is not a guide," he concluded. "Military force . . . might be the best way to protect an

interest that qualilfied as important, but less than vital."[162]

In such a construct, the cumulative effects of credibility described by Secretary Shultz in 1985 have returned as an important rationale for the use of force--almost as in the cold war era, an all-encompassing interest in itself. "It is clearly in the U.S. interest," one report concludes, "to be known as a reliable ally, a contributor to regional stability, a defender of international law, a supporter of peace conflict resolution, a feared adversary, and a nation committed to the common good."[163] This broader definition of security seems to imply a role of global policeman for the United States--an implication reinforced by time streams that go back no further than Vietnam. But dominoes are not just a manifestation of the cold war. The other three major wars fought by America in this century came about at least partially because of narrow definitions of security: that of Britain prior to World War I and of the United States prior to World War II and Korea, the latter embodied in its exclusion from the American defense perimeter. "We ought not to employ force casually," Joshua Muravichik concludes in this regard, "but neither should we reserve it for little more than direct self-defense. For such a course is the one most likely to put us in a position in which we have to use force precisely for direct self-defense, and at a far greater cost in American blood and treasure."[164]

In all this, U.S. military doctrine has attempted to accommodate change. For the Army, the "versatile" Decathlete of FM 100-5, the major problem is not to harm agility in one event by overtraining in another. In the Decathlon, this is avoided by judicious scheduling of events: the shot put, for instance, would not immediately proceed or follow the javelin throw. No such scheduling is possible for the Army in the current environment in which warfighting and myriad forms of OOTW can often make simultaneous demands across a blurred continuum of peace, crisis and war. Still, it is a situation that, in varied form the U.S. military and, in fact most military, have faced in their histories. "We have to make war as we must," Lord Kitchener once commented, "and not as we should like to."[165]

All that notwithstanding, the situation in the frenzied pace of post-cold war transition has placed some strains on objective civil-military relations. Doctrinally, the emphasis on decisive victory and friendly casualty limitations can be seen as an attempt by the military to balance military-political power with military-societal compatibility. But decisive victory is a political condition--an end state that should be spelled out by policymakers. There will be times--the Gulf War, for example--when less than decisive military victory will be a political requirement. In a similar manner, the doctrinal focus on casualty limitation, normally the realm of the statesman, might impart a degree of conservatism that could stifle creativity and innovation. It might also cause an overemphasis on technology as a panacea within the RMA that in turn could adversely affect R&D

and force structure.[166]

The use of overwhelming force appears to be a more legitimate military preoccupation despite criticism that such advocacy on the part of the military reverses Clausewitz's most fundamental dictum by making policy the extension of war. But it is, in fact, very Clausewitzian for the military to outline what it needs to achieve the objectives set by policymakers and then to describe the risk estimation in terms of the calculated relationship of the provided means to the ends. This calculation is the essence of strategy. It does not increase the power of the military vis-a-vis governmental elites, anymore than that offered by the normal leverage of a divided government. But it does help to achieve a balance of this political-military relationship with the demands of American societal values.[167]

In the end, it is the combination of this balance with a flexible doctrinal framework that has mitigated the natural tendency of the military to preserve its institutional values solely in terms of warfighting. Without that balance, the leavening influence of the public would not affect the process. And without the structure of the vertical continuum of war leading ultimately to the highest and most dominant political level of strategy, there could be no overarching doctrinal coherence. How serious the adverse synergism of these twin deficits can be was illustrated by the Nazi Wehrmacht, which perceived that without swift decisive victory, other nonmilitary factors would intrude, threatening the position of war as the autonomous domain of the military elite. This was the ultimate rationale for *Blitzkrieg*, which in fact was the opposite of doctrine, since success rather than design determined the priority of actions. That type of opportunism caused impromptu operations based on the belief that technology (Guderian) or superior war fighting command capabilities (von Manstein) would make the ultimate difference in conflict. But cut off from the public and deprived of anything approaching a coherent strategic level of war, there could be no sense of operational purposefulness for the military other than to pursue its institutional goals almost exclusively. "We still failed to find any satisfaction in their achievements," von Manstein wrote of German tactical victories in 1941," . . . for no one was clear any longer . . . what higher purpose, all these battles were supposed to serve."[168]

CHAPTER 5

CONCLUSION

When thinking in time streams, the key for the future is to recognize in the present those departures from the past--those changes which divert or have the potential to divert familiar flows from the accustomed channels. The pace of technological change is, of course, a departure from the past that has such a potential for warfare. For the military, which has less room for any illusions about the stakes, this is particularly important. "If you have lost a battle," G. K. Chesterton once noted, "you cannot believe you have won it."[169] In all this, there is a need for a constant comparison between the present and past coupled with a sensitivity to prospective breaks in the continuity that will allow change to be expedited or limited, countered or accepted--at the very least guided. That comparison indicates that military doctrine and its organizational concomitant will play a key role in such an effort concerning technological change. This is the essence of what has come to be called the RMA.

But that comparison also draws attention to the continuity of war as a uniquely human activity, one in which a kind of "Murphy's Law" transcends the streams of time. Doctrine and technology, for instance, have rarely been in synch throughout history. And technological surprise has not often been achieved, and then only for short periods. Certainly, the utilization of force has not been rendered any more decisive or easier for any length of time by technological change. Nor has there been any easing of the tension that has traditionally marked the coexistence of military effectiveness and technological efficiency. The result is that RMAs have never been revolutionary in the sense of occurring--even in the expanded perspective of time streams--overnight. In all this, as Neustadt and May conclude, "it may help . . . to bear in mind that futures arrive detail by detail and that decisions lightly taken sometimes carry awful costs."[170]

The RMA that is currently unfolding will only add to the complexity of those decisions, particularly because of the sociopolitical changes which, as Michael Roberts has pointed out, accompany any such revolution. Thus, the Clinton administration's recent emphasis on the primacy of warfighting in the use of force is not a symptom of civil-military imbalance, but rather an acknowledgement that there is a need for prioritization of effort and that once the current transition is sorted out, the American people are not likely to support foreign ventures that are not clearly linked to U.S. national security interests. And that, at least for the foreseeable future, appears to rule out the First Wave form of war embodied in many OOTW missions, leaving the field to the warfighting that still combines the Second and Third Wave forms. But as we have seen, nothing is immutable when it comes to the utility of military force. As a consequence, there

may be a need for strategic leadership that resists a momentary, video-driven urge by the public for intervention in areas or situations of only peripheral interest to the United States. Or conversely, that leadership may require the molding of public support for such an intervention, either unilaterally or multilaterally, recognizing the broader need for cumulative credibility and moral leadership as the world's only superpower, even while acknowledging that the interest or interests involved remain peripheral and that involvement in such a venture can make American credibility an interest in itself.

In all this, the U.S. military must be versatile and flexible in dealing as much with political and social change as with that occasioned by technology. This adaptability will prevent the development of a hunkering in mentality as defender of the status quo. But it requires facing the issues of change and continuity head-on. In a similar period of complexity, medieval chivalry transformed itself into the disciplined professional cavalry that played a key role in European wars for 200 years. And the army of Frederick the Great reemerged at the hands of the great Prussian reformers from the disastrous encounters with Napoleon's revolutionary army to become one of the greatest war machines in military history. The efforts of the U.S. military in the wake of the Vietnam conflict were no less momentous.[171]

The 1993 FM 100-5 clearly evokes this theme of renewal in change and continuity, the essence of doctrine which "captures the lessons of past wars, reflects the nature of war and conflict in its own time, and anticipates the intellectual and technological developments that will bring victory now and in the future."[172] This interaction provides, in turn, a dynamic environment--"a context," the Chief of Staff of the Army points out, "within which the debate over evolving doctrine can continue."[173] The framework for that debate is the vertical continuum of war, a dynamic entity that "must be reflective of constantly changing strategic and tactical environments, and the operational art, whose job is to connect the two, must be responsive to all changes."[174] The debate will help ensure in the future against the doctrinal equivalent of what has been called "the dead hand of Napoleon," a reference to the persistence of Napoleonic tactics and strategy long after they were rendered obsolete by changes in weapons technology.[175] The debate will also keep the strands of change and continuity in balance as the Army prepares for missions in peace and crises as well as war.

The key to the Army approach is the retention of the three level vertical framework of war, spawned as the result of an earlier RMA that emptied the battlefield while it expanded the concepts of time and space. This doctrinal continuity maintains the focus on the primacy of the strategic level--all the more important because of the sociopolitical as well as technological changes that will accompany the RMA. In addition, there is a great deal of flexibility provided by the divorce of the

framework from any particular size force and by its recognition that all power elements can play a role in the complex process of operational synchronization. It is a framework, in short, that accommodates OOTW as well as warfighting. And in fact, the increasingly compressed nature of the vertical continuum for warfighting is the normal state for many OOTW missions, in which it is almost a cliche that the actions of a soldier on point can have strategic and political results.

The flexibility in the doctrinal framework also provides room to examine the constantly shifting organizational tensions between coherence and dissonance, jointness and independence, and centralization and decentralization--particularly as they apply to the current Goldwater-Nichols structure, a rational organization designed for immediate response to a well-defined threat. Equally important, this flexibility allows for innovative give-and-take in the relationship of technology and doctrine. Too rigid a doctrine, as the French demonstrated prior to World War I, can impede an appreciation of military-technological changes. It is also important, however, that technology focused on immediate or near-term potential threats not hold back long-term operational concepts or R&D concerning technology focused further in the future. In the interwar years, for instance, the U.S. armed forces developed new concepts of operation that were to prove successful against future "A" level peer competitors, despite the fact that national policy and sentiment rejected such efforts because there were no obvious threats to vital interests. For the Navy, the result was innovative doctrine on carrier task force operations and amphibious landings. Equally significant, all this took place at the Naval War College in an environment free from the tyranny of the "in box," and at a time when Japan was not a U.S. enemy, when the budget for all the services together comprised less than one percent of GNP, and when the force structure for such concepts was nonexistent.[176]

Within the doctrinal framework, technology will cause warfare to become more, not less, Clausewitzian. To begin with, any society or group, whether trinitarian or non-trinitarian, has identifiable pressure points that a trinitarian state can reach and target without resorting to a fourth generational or First Wave response. These third generational responses, moreover, are normally applied as part of the larger employment of all elements of power, defined in terms of the trinitarian national state. The basic fact remains that it is still a state-centric world in which, as even van Creveld admits, only other technologically developed states can have a major impact on U.S. national security. "However spectacular the effects of non-trinitarian war," he writes, "and however tragic the fate of its victims, at present it is incapable of seriously threatening the security of Western states . . . ."[177] All of this would assuredly still be unconvincing for John Keegan who, as we have seen, perceives technological developments as a major impetus toward a multicentric world. In reply, Michael Howard has pointed out the continuity of these views with those in Norman Angell's 1910 *The*

Grand Illusion--a paean to economic interdependence that faded in the hot August days of 1914. "I have an awful feeling," he concludes," that this is where I came in."[178]

It is in this state-centric world that the technologically induced compression of the vertical doctrinal framework only shortens, and thereby strengthens the link of war to policy. With time compressed over extended space and with that immense space rendered comprehensible by a technological *coup d'oeil*, an entire theater can become a simultaneous battlefield where events, as in the days of Napoleon, may determine national destinies. In addition, the horizontal, real time communication link to the vertical continuum of war only reinforces the interaction of the people with the other two thirds of the Clausewitzian trinity.

War, in other words, is still a political act. The sociopolitical effects of revolutions in military affairs that have occurred since the 16th century have only reinforced this fact. At the same time, as historical streams throughout this period indicate, there is always the danger that such "revolutions" may foster a narrow military view of professionalism focused purely on technical and tactical competence with technology viewed as the ultimate panacea, particularly in an era of downsizing. Part of the answer is to continue and enlarge upon the iterative civil-military process that grew out of the creation of the national security state during the cold war without succumbing to Huntington's subjective civilian control. "The exclusion of soldiers from politics does not guarantee peace," Bacevich reminds us. "It only guarantees that those who command armies in wartime will be politically obtuse."[179] Part of the answer also lies in the continuity of U.S. military doctrine; for it is well to remember that operational art is designed to make warfare more effective in a Clausewitzian political instrumental sense, and that without a framework that keeps a doctrinal focus on the upper reaches of strategy, there is always the danger of technological efficiency overriding that effectiveness.

Implicit in both these answers is a third one, particularly important if the owl of Minerva is to fly at dawn as well as dusk as the RMA unfolds. For an understanding of the past is absolutely essential to the military professional if continuity and change in that "revolution" are to be understood in the present which, in Bob Dylan's words, "will later be past." Thinking in such time streams will require the same type of focus summarized by Michael Howard almost 30 years ago in his report on Service Colleges to the British Ministry of Defence.

> There will always be a prime need for the fighting leader in the armed forces; but . . . today the junior fighting leader often needs to exercise a considerable degree of independent and informed judgement . . . while the demands made on his seniors find little parallel in any civil profession. To fit officers for

> so testing a career . . . it is as necessary to extend their intellectual powers as it is to strengthen their moral powers and their capacity for physical endurance.[180]

ENDNOTES

1. William E. Odom, *America's Military Revolution: Strategy and Structure After the Cold War*, Washington, DC: American University Press, 1993, p. 47. "I believe we are in a revolution in methods of commanding soldiers and units in battle similar to the one that took place in the 1920s with the wireless radio and track-laying technology." Frederick M. Franks, "Full Dimensional Operations: A Doctrine For an Era of Change," *Military Review*, Vol. LXXII, No. 12, December 1993, p. 6. For the Soviet origins of the concept in terms of electronics and nuclear capability, see "The Revolution in Military Affairs," *Soviet Military Encyclopedia*, Vol. 7, Moscow: Voyenizdat, 1979, p. 82.

2. Alvin H. Bernstein, Director, *Project 2025*, Washington, DC: Institute for National Strategic Studies, November 6, 1991, p. 36. See also Martin van Creveld, *Technology and War. From 2000 BC to the Present*, New York: The Free Press, 1989, p. 313.

3. Robert L. Heilbroner, *The Future as History*, New York: Harper & Row, 1960, pp. 193-197.

4. Stephen Jay Gould, *Bully for Brontosaurus. Reflections in National History*, New York: W. W. Norten & Company, 1991, p. 61.

5. *Ibid*., p. 72.

6. Georg Wilhelm Friedreich Hegel, *The Philosophy of Right*, Chicago: Encyclopedia Britannica, Inc., 1952, p. 7.

7. Original emphasis, Arthur M. Schlesinger, Jr., *The Bitter Heritage: Vietnam and American Democracy*, Boston: Houghton Mifflin, 1966, p. 91. See also, Ernest R. May, *"Lessons" of the Past. The Use and Misuse of History in American Foreign Policy*, New York: Oxford University Press, 1973, pp. xi and 179.

8. Richard E. Neustadt and Ernest R. May, *Thinking in Time. The Uses of History for Decision-Makers*, New York: The Free Press, 1986, pp. 257-266, 251 and 254. The ability to look at distant futures "with a clear sense of the long past from which those futures would come." *Ibid*., p. 248. Key questions are those "that shed light almost regardless of the answers." *Ibid*., p. 269. See also the section entitled "The Future as the Mirror of the Past," in Heilbroner, pp. 18-21. "These are times of both continuity and change, and must be understood as such. Complex changes are never complete breaks from the past." Maurice Mandelbaum, *The Anatomy of Historical Knowledge*, Baltimore: Johns Hopkins University, 1977, p. 140.

9. Henry Kissinger, *A World Restored*, Gloucester, MA: Peter Smith, 1973, p. 6. See also, Fareed Zakaria, "The Core vs. the Periphery," *Commentary*, Vol. 96, No. 6, December 1993, p. 26.

10. Bernstein, p. 63.

11. Michael Howard, "Military Science in an Age of Peace," *RUSI, Journal of the Royal United Services Institute for Defence Studies*, No. 119, March 1974, p. 4.

12. U.S. Department of Defense, *Conduct of the Persian Gulf War*, Final Report to Congress, Washington, DC: USGPO, April 1992, p. 164. In the 1960s and 70s, both the United States and the USSR began the piecemeal aggregation of advanced technology that is still underway for the United States. Daniel Goure, "Is There a Military-Technical Revolution in America's Future?", *The Washington Quarterly,* Vol. 16, No. 4, Autumn 1993, p. 182.

13. James Blackwell, Michael J. Mazarr, Don M. Snider, *The Gulf War. Military Lessons Learned*, Washington, DC: CSIS, July 1991, p. 21.

14. Original emphasis. Michael Mazarr, *et.al.*, *The Military Technical Revolution. A Structural Framework*, Washington, DC: CSIS, March 1993, p. 16.

15. *Ibid.*, p. 17.

16. Alvin and Heidi Toffler, *War and Anti-War Survival at the Dawn of the 21st Century*, New York: Little, Brown & Company, 1993, p. 22.

17. *Ibid.*, pp. 83-84.

18. *Ibid.*, p. 93.

19. *Ibid.*, p. 74.

20. *Ibid.*, p. 56.

21. *Ibid.*, pp. 135 and 85.

22. Eliot Cohen, "The Mystique of Air Power," *Foreign Affairs*, January/February 1994, p. 112. See also Antulio Echevarria and John M. Shaw, "The New Military Revolution. Post Industrial Change," *Parameters*, Vol. XXII, No. 4, Winter 1992-93, p. 71.

23. Goure, p. 180. "A military-technical revolution has begun. It is in its infancy." *Ibid.*, p. 183. "*Desert Storm* generally serves poorly as an example." L. D. Holder, "Offensive Tactical Operations," *Military Review*, Vol. LXXII, No. 12, December 1993, p. 56.

24. A. J. Bacevich, "New Rules: Modern War and Military Professionalism," *Parameters*, Vol. XX, No. 4, December 1990, p. 13. See also Daniel P. Bolger, "The Ghosts of Omdurman," *Ibid.*, Vol. XXI, No. 3, Autumn 1991, pp. 28-39, and Richard D. Hooker, Jr., "The Mythology Surrounding Maneuver Warfare," *Ibid.*, Vol.

XXIII, No. 1, Spring 1993, pp. 27-38.

25. Bacevich, p. 14.

26. *Ibid*., p. 15.

27. William S. Lind, *et.al*., "Face of War Into the Fourth Generation," *Military Review*, Vol. LXIX, No. 10, October 1989, pp. 2-11. See also Kenneth F. McKenzie, Jr., "Elegant Irrelevance: Fourth Generation Warfare," *Parameters*, Vol. XXIII, No. 3, Autumn 1993, pp. 53 and 59, who sees the theories of non-trinitarianism and fourth generation warfare as so interlinked and mutually supporting as to be virtually inseparable; and who believes (p. 51) that fourth generation warfare theory is "untenable. Its methods are unclear, its facts contentious and open to widely varying interpretations and its relevance questionable."

28. Martin van Creveld, *The Transformation of War*, New York: The Free Press, 1991, p. 214.

29. *Ibid*., p. 58. See also *Ibid*., pp. 49-57, and 205-208.

30. John Keegan, *A History of Warfare*, New York: Alfred A. Knopf, 1993, pp. 3 and 5. Wisdom is to be learned "in the denial that politics and war belong within the same continuum." *Ibid*., p. 392. The development of nuclear weapons was "the logical culmination of the technological trend in the western way of warfare, and the ultimate denial of the proposition that war was, or might be, a continuation of politics by other means." *Ibid*., p. 391.

31. Robert D. Kaplan, "The Coming Anarchy," *The Atlantic Monthly*, Vol. 273, No. 2, February 1994, p. 72.

32. *Ibid*., p. 72. See also *Ibid*., pp. 60 and 73.

33. Goure, p. 179.

34. Paul Bracken, "The Military After Next," *The Washington Quarterly*, Vol. 16, No. 4, Autumn 1993, pp. 161-162. "Thus, as a doctrine-based army, change begins by changing our body of ideas--changing how we think about warfighting and conducting operations other than war." Franks, p.6.

35. Mazarr, p. 22.

36. Robert A. Doughty, *Advancing Military Technology and Doctrine: An Unresolved Challenge*, Chicago: International Conference Inter-University Seminar on Armed Forces and Society, October 21-23, 1983, pp. 5-7.

37. *Ibid*., p. 6. But see Michael Howard, "Men Against Fire: The Doctrine of the Offensive in 1914," *Makers of Modern Strategy*

from Machiavelli to the Nuclear Age, ed., Peter Paret, Princeton: Princeton University Press, 1986, p. 526, who points out that the general staffs of Europe had exhaustively analyzed the influence of firepower on tactics prior to 1914, and that "well-trained regular forces already knew that the best answer to the rifle was the spade. The worst losses were those due not to faulty doctrine but to inefficiency, inexperience, and the sheer organizational problems of combining fire and movement on the requisite scale." See also Williamson Murray, "The German Response to Victory in Poland. A Case Study in Professionalism," *Armed Forces and Society*, Vol. 7, No. 2, Winter 1981, p. 285, who concludes:

> Throughout history, military organizations have attempted to learn from experience. For the most part, however, they have tended to extract from their experiences as well as the experiences of others only what supported their preconceived notions. In fact, existing doctrine has in most cases become a barrier to adaptation and improvement.

38. Howard, "Military Science," p. 6 and Jay Luvaas, *The Military Legacy of the Civil War*, Chicago: University of Chicago Press, 1959, *passim*.

39. J.F.C. Fuller, *The Army In My Time*, London: Rich and Cowan, 1935, p. 73. See also John Ellis, *The Social History of the Machine Gun*, New York: Pantheon, 1975, and Edward L. Katzenbach, "The Horse Cavalry in the Twentieth Century," *The Use of Force: Military Power and International Politics*, rev. ed., eds., Robert Art and Kenneth N. Waltz, Lanham, MD: University Press of America, 1993.

40. Original emphasis. Van Creveld, *Technology*, p. 314.

41. *Ibid*., p. 319.

42. John Guilmartin, *Gunpowder and Galleys. Changing Warfare and Mediterranean Warfare at Sea in the Sixteenth Century*, London: Cambridge University Press, 1974, p. 207, and Keegan, p. 337.

43. Keegan, p. 341.

44. Stephen Peter Rosen, *Winning the Next War. Innovation and the Modern Military*, Ithaca, NY: Cornell University Press, 1993, p. 9; Doughty, pp. 9 and 15.

45. Edward Luttwak, *The Paradoxical Logic of Strategy*, Berkeley, CA: Institute of International Studies, 1987, pp. 32-39.

46. Michael Glover, *The Velvet Glove. The Decline and Fall of Moderation in War*, London: Hodder and Stoughton, 1982, p. 99. See also Keegan, pp. 321 and 323.

47. Doughty, pp. 26-27. See also his "DeGaulle's Concept of a Mobile Professional Army: Genesis of French Defeat?," *Parameters*, Vol. IV, No. 2, 1974, pp. 23-24.

48. Heinz Guderian, *Panzer Leader*, translation Constantine Fitzgibbon, New York: E.P. Dutton, 1952, pp. 29-30.

49. Andrew Krepenevich, *The Army in Vietnam*, Baltimore: Johns Hopkins University Press, 1986, Chapter 2. See also Kurt Lang, "Military Organizations," *Handbook for Organizations*, ed., James G. March, Chicago. Rand McNally, 1965, p. 857 and Rosen, p. 11.

50. Toffler, p. 32.

51. Van Creveld, *Technology*, p. 196.

52. Michael Roberts, *The Military Revolution 1560-1660*, Belfast: Marjory Boyd, 1956, p. 5. See also Richard A. Preston and Sydney F. Wise, *Men in Arms: A History of Warfare and Its Interrelationships With Western Society*, 4th ed., New York: Holt, Rinehart, and Winston, 1979.

53. Roberts, p. 7; Echeverria and Shaw, p. 70.

54. "It was only then that modern armies, founded on the principle of hierarchical subordination, discipline, and social obligation, took the shape they have retained to the present day." Gunther E. Rothenberg, "Maurice of Nassau, Gustavus Adolphus, Raimondo Montecuccoli, and the 'Military Revolution' of the Seventeenth Century," *Makers of Modern Strategy*, pp. 36 and 37. See also Roberts, p. 7; and Geoffrey Parker, *The Military Revolution. Military Innovation and the Rise of the West, 1500-1800*, Cambridge: Cambridge University Press, 1988, pp. 19-20.

55. Roberts, pp. 8-9.

56. *Ibid*., p. 13.

57. *Ibid*., p. 32. See also *Ibid*., pp. 14-24, Echeverria and Shaw, p. 76, and Parker, pp. 1-3. But see J.R. Hale, *War and Society in Renaissance Europe 1450-1620*, New York: St. Martins Press, 1985, who cautions, p. 251: "War cannot be thought out of history and then be put back in order to measure the difference it made to what else was influencing the course of administrative and constitutional affairs," and then concludes, p. 252: "War conditioned but did not create those changes that occurred between 1450 and 1620 . . . ."

58. Quoted in Parker, p. 16. See also *Ibid*., pp. 35 and 44.

59. Russell Weigley, *The Age of Battles. The Quest for Decisive Warfare from Breitenfeld to Waterloo*, Bloomington:

Indiana University Press, 1991, p. xiii. See also Parker, p. 43, who points out that despite the Military Revolution, "wars still eternalized themselves." Parker also believes that the Military Revolution described by Roberts actually lasted to the mid-18th century. Marlborough and Prince Eugene, he points out, used military methods and objectives too similar to Cromwell and Turenne to permit a firm line to be drawn. *Ibid*., p. 147.

60. James J. Schneider, "Vulcan's Anvil: The American Civil War and the Emergence of Operational Art," *Theoretical Paper No. 4*, Fort Leavenworth, KS: SAMS, June 16, 1991, p. 15; and "The Loose Marble--and the Origins of Operational Art," *Parameters*, March 1989, p. 86.

61. Carl von Clausewitz, *On War*, ed. and trans., Peter Paret and Michael Howard, Princeton: Princeton University Press, 1976, pp. 142-143.

62. Michael Howard, *Clausewitz*, New York: Oxford University Press, 1983, p. 15; *On War*, pp. 1127-132.

63. *On War*, p. 111.

64. Schneider, "Vulcan's Anvil," pp. 25-26; T.N. DuPuy, *The Evolution of Weapons and Warfare*, New York: Bobbs-Merril, 1980, pp. 190-205; and Martin van Creveld, *Command in War*, Cambridge: Harvard University Press, 1985, Chapter 4, "Railroads, Rifles and Wires."

65. Original emphasis. FM 100-5, 1986, p. 2-11.

66. Bruce Catton, *This Hallowed Ground*, Garden City, NY: Doubleday and Company, Inc., 1956, p. 362.

67. Paul Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*, New York: Random House, 1987, pp. 181-182.

68. David G. Chandler, *The Campaigns of Napoleon*, New York: Macmillan, 1966, p. 161.

69. F.W. von Mellenthin, *Panzer Battles*, New York: Ballantine, 1984, p. 264.

70. JCS Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, Washington, DC: USGPO, December 1, 1989, p. 264. The military strategic level in many cases was the final destination of the vertical road by the third year of the war when politics, as John Keegan has pointed out, had largely become an extension of war. Keegan, p. 234.

71. FM 100-5, 1993, p.v. See also Paul H. Herbert, "Deciding What Has to be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations," *Leavenworth Papers*, No. 16, Ft.

Leavenworth, KS: Combat Studies Institute, 1988.

72. Richard Hart Sinnreich, "Strategic Implications of Doctrinal Change: A Case Analysis," *Military Strategy in Transition: Defense and Deterrence in the 1980s*, eds., Keith A. Dunn and William O. Staudenmaier, Carlisle, PA: Strategic Studies Institute, 1983, p. 46. See also Alex Roland, "Technology, Ground Warfare, and Strategy: The Paradox of American Experience," *The Journal of Military History*, Vol. 55, October 1991, pp. 462-463.

73. FM 100-5, August 20, 1982, p. 2-1.

74. Sinnreich, p. 49.

75. FM 100-5, 1993, p.v.

76. Emphasis added. Joint Pub. 3.0, *Doctrine for Joint Operations*, Washington, DC: USGPO, September 1993, p. II-3.

77. FM 100-5, 1993, p. 1-2. See also *Ibid*., p. 2-3: "Understanding the relationship between doctrine and technology begins with the premise that doctrine drives the exploitation of technology."

78. Holder, p. 53.

79. FM 100-5, 1993, p. 2-9.

80. *Ibid*., p. 2-9. See Figure 2-1, *Ibid*., p. 2-1. "Versatility is a prerequisite for a strategic Army, one that can move anywhere on short notice, whose units can pick up a mission previously absent from their METL, as well as one they have trained for and perfected their abilities in over time, and bring home a victory." James McDonough, "Versatility: The Fifth Tenet," *Military Review*, Vol. LXXII, No. 12, December 1993, p. 14.

81. FM 100-5, 1993, p. 6-2. "The operational level is the vital link between nation--and theater--strategic arms and the tactical employment of forces on the battlefield." *Ibid*. See also *Ibid*., p. 6-1.

82. *Ibid*., p. 1-3 See also JCS Pub. 3-0, P. II-2: "The levels of war . . . apply to war and to operations other than war."

83. *Ibid*., p.v.

84. Emphasis added. *Ibid*., p. iv.

85. Original emphasis. McDonough, p. 13.

86. Original emphasis. FM 100-5, 1993, p. 1-5.

87. Douglas A. MacGregor, "Future Battle: The Merging Levels

of War," *Parameters*, Vol. XXII, No. 4, Winter 1992-93, p. 42. See also *Ibid*., pp. 38-40.

88. Mazarr, p. 27. See also *Ibid*., pp. 19 and 26.

89. Joint Pub. 3-0, p. II-2.

90. It is a job that may require specialized commanders and staffs, schooled in the new complexities of operational art, to be specifically assigned from a pool as situations develop. Professor Douglas Campbell, USAWC, January 19, 1994.

91. Holder, p. 52.

92. Blackwell, p. 11.

93. Franks, p. 8.

94. James McDonough, "The Operational Art: Quo Vadis?," *Maneuver Warfare. An Anthology*, ed., Richard D. Hooker, Jr., Novato, CA: Presidio Press, 1994, pp. 112-113.

95. Van Creveld, *Command in War,* p. 264.

96. Donn Starry, Review of LTG Frederic J. Brown, "The U.S. Army in Transition II: Landpower in the Information Age," *Parameters*, Vol. XXIII, No. 3, Autumn 1993, p. 117.

97. Cohen, "Mystique of Air Power," p. 115.

98. Odom, pp. 51 and 53; and Mazarr, p. 27.

99. Cohen, "Mystique of Air Power," pp. 117-118.

100. Keegan, p. 286.

101. Cohen, "Mystique of Air Power," p. 118.

102. *On War*, pp. 603-610.

103. Gordon A. Craig, "The Political Leader as a Strategist," *Makers of Modern Strategy*, pp. 481-509.

104. Odom, p. 49.

105. Gordon R. Sullivan and James M. Dubik, *Land Warfare in the 21st Century*, Carlisle, PA: Strategic Studies Institute, 1993, p. 19. See also Cohen, "Mystique of Air Power," p. 115.

106. Toffler, p. 78. See also Bernstein, p. 75.

107. Odom, p. 48. See also van Creveld, *Command in War*, pp. 255-256.

108. MG Indar Jit Rikhye lecture to the USAWC Advanced Course on Collective Security and Peacekeeping, February 4, 1994.

109. McDonough, "The Operational Art," p. 106.

110. Lewis Carroll, *Through the Looking Glass and What Alice Found There*, in Glover, title page.

111. Ruth Leger Sivard, *World Military and Social Expenditures 1989*, Washington: World Priorities, 1989. See also Charles W. Kegley, Jr., "Explaining Great-Power Peace: The Sources of Prolonged Postwar Stability," *The Long Postwar Peace: Contending Explanations and Projections*, New York: Harper Collins, 1990, p. 8; Michael Brecher and Jonathan Wilkenfeld, "International Crisis and Global Instability: The Myth of the 'Long Peace'," *Ibid*.; and Eliot Cohen, "Distant Battles: Modern War in the Third World," *International Security*, Vol. 10, No. 5, Spring 1986, p. 186.

112. Draft FM 100-23, *Peace Operations*, Version #6, January 1994, p. 1-1.

113. John MacKinlay and Jarat Chopra, "Second Generation Multinational Operations," *The Washington Quarterly*, Vol. 15, No. 3, Summer 1992, p. 114-115. See also FM 100-23, p. 1-2. For the original criteria, see Brian Urquhart, "Beyond the Sheriffs Posse," *Survival*, Vol. XXXII, No. 3, May/June 1990, p. 198.

114. Mackinlay and Chopra, p. 116, see a continuum between peacekeeping and peace enforcement. The draft military doctrine on peace operations does not. "Because both are part of peace operations, it is often incorrectly assumed that they are part of operations. They take place under vastly different circumstances involving consent and force. Commanders must recognize these differences and develop different planning approaches for each of these operations." FM 100-23, p. 1-3.

115. Ronald D. Asmus, *The New U.S. Strategic Debate*, Santa Monica, CA: Rand Arroyo Center, 1993, p. 66.

116. Secretary of Defense Dick Cheney, *Defense Strategy for the 1990s: The Regional Defense Strategy*, Washington, DC: Department of Defense, January 1993, pp. 8-9.

117. Franks, p. 10.

118. S. L. Arnold, "Somalia: An Operation Other Than War," *Military Review*, Vol. LXXIII, No. 12, December 1993, pp. 31-32.

119. *Ibid*., p. 35.

120. Toffler, p. 181. Mazarr, p. 53. But see *Ibid*., p. 54: "The MTR can make only a limited contribution to irregular operations;" p. 10: "(Clearly more work is needed on how to make

MTR capabilities more relevant to irregular operations;" and pp. 54-55: "(This study has argued that technologies, doctrines, and organizations designed to fight a high-intensity MTR war will have only limited application to most kinds of irregular operations." See also Joseph F. Pilat and Paul C. White, "Technology and Strategy in a Changing World," *The, Washington Quarterly*, Vol. 13, No. 2, Spring 1990, p. 84.

121. Rikhye lecture, February 4, 1994; and Charles C. Moskos, *Peace Soldiers: The Sociology of a United Nations Military Force*, Chicago: The University of Chicago Press, 1976. On the MFO, LTC(P) William Martinez, USAWC 1994, and LTC(P) Craig Pearson, USAWC, 1994, March 2, 1994.

122. Mazarr, p. 9.

123. *U.S. News and World Report*, Vol. 113, No. 11, September 21, 1992, p. 53.

124. Bracken, pp. 164-165 and 167. On peer competitors, see also Bernstein, pp. 62, 68, and 77.

125. Original emphasis, Barry M. Blechman *et.al.*, *Key West Revisited: Roles and Missions of the U.S. Armed Forces in the Twenty-First Century*, Report No. 8, Washington, DC: The Henry L. Stimson Center, March 1993, pp. v and 12. Note, however, the weakened position in *Ibid.*, p. 12: "Some of these forces--although intended primarily for unilateral operations--should be earmarked for enforcement actions in support of collective security and receive the specialized training that could enable them to operate more effectively with the forces of other nations."

126. Joshua Muravchik, "Beyond Self-Defense," *Commentary*, Vol. 16, No. 6, December 1993, p. 21.

127. Anthony Lake, "The Limits of Peacekeeping," *The New York Times*, February 6, 1994, p. IV-17. See Gregory D. Foster, "Peacekeeping Is Crucial to U.S. Military Future," *Ibid.*, February 13, 1994, who perceives the administration's position as an attempt "to appease a disgruntled parochial military establishment that is mired in the past."

128. Samuel P. Huntington, *The Soldier and the State. The Theory and Politics of Civil-Military Relations*, New York: Vintage Books, 1957, p. 83.

129. Roland, p. 465. See also Richard A. Stubbing with Richard A. Mendel, *The Defense Game: An Insider Explores the Astonishing Realities of America's Defense Establishment*, New York: Harper and Row, 1986 and Russell Weigley, "The American Military and the Principle of Civilian Control from McClellan to Powell," *The Journal of Military History*, Vol. 57, No. 5, Special Issue--October 1993, pp. 27-58.

130. Harold G. Moore and Joseph L. Galloway, *We Were Soldiers Once . . . and Young*, New York: Random House, 1992, p. xv. See also Huntington, pp. 85-86; and Deborah D. Avant, "The Institutional Sources of Military Doctrine: Hegemons in Peripheral Wars," *International Studies Quarterly*, Vol. 37, No. 4, December 1993, pp. 415-416.

131. Eliot A. Cohen, "Why We Should Stop Studying the Cuban Missile Crisis," *The National Interest*, No. 2, Winter 1985/86, p. 8. See also Stephen P. Rosen, "Vietnam and the American Theory of Limited War," *International Security*, Vol. 7, No. 1, Fall 1982, pp. 83-113.

132. Harry G. Summers, Jr., *On Strategy: The Vietnam War in Context*, Carlisle, PA: Strategic Studies Institute, 1981, p. 25.

133. Eliot A. Cohen, "Constraints on America's Conduct of Small Wars," *International Security*, Vol. 9, No. 2, Fall 1984, p. 156.

134. Alexis de Tocqueville, *Democracy in America*, trans. George Lawrence, New York: Anchor Books, 1969, pp. 657-658.

135. Caspar W. Weinberger, "The Uses of Military Power," *Military Strategy: Theory and Application*, ed. Arthur F. Lykke, Jr., Carlisle, PA: U.S. Army War College, 1993, pp. 243-248.

136. Jim Hoagland, "August Guns: How Sarajevo Will Reshape U.S. Strategy," *The Washington Post*, August 19, 1992.

137. *U.S. News and World Report*, Vol. 113, No. 11, September 21, 1992, p. 53.

138. Colin L. Powell, "Why Generals Get Nervous," *The New York Times*, October 8, 1992, p. A-35. As Senior Military Assistant to Secretary Weinberger in 1984, Powell apparently oversaw the writing of the speech to the National Press Club outlining the Weinberger Doctrine. Richard H. Kohn, "Out of Control. The Crisis in Civil-Military Relations," *The National Interest*, No. 35, Spring 1994, p. 12.

139. Emphasis added. Secretary of State Shultz's statement before the Senate Foreign Relations Committee, January 31, 1985, reprinted in the *Department of State Bulletin*, March 1985, p. 19.

140. Mazarr, p. 11.

141. Karl Elkenberry, "Casualty Limitation and Military Doctrine," *Army*, Vol. 44, No. 2, February 1994, p. 17; and Colonel Joseph Cerami, USAWC, March 12, 1994.

142. Blackwell, p. 36. See also Elkenberry, p. 18.

143. Mazarr, pp. 11 and 59-60. See also A. J. Bacevich, "Learning from Aidid," *Commentary*, Vol. 96, No. 6, December 1993, p. 30-31.

144. Toffler, p. 173.

145. *Ibid*., p. 72.

146. Blackwell, p. 49.

147. Cohen, "Mystique of Air Power," p. 124. Cohen concludes that perhaps the most dangerous legacy of the air war in the Gulf War is "the fantasy of near-bloodless use of force." *Ibid*., p. 121. "If the claims of air power advocates are correct, the United States has acquired a military edge over conventional opponents comparable to that exercised in 1898 by the soldiers of Lord Kitchener against the sword-wielding dervishes of the Sudan." *Ibid*., p. 111.

148. FM 100-5, 1993, pp. 1-2--1-3,.

149. Muravchek, p. 24. See also Donald M. Snow, *Peacekeeping, Peacemaking and Peace-Enforcement: The U.S. Role in the New International Order*, Carlisle, PA: Strategic Studies Institute, February 1993, pp. 27-29.

150. Bacevich, "Learning from Aidid," p. 33.

151. Douglas Pike, *PAVN: People's Army in Vietnam*, Novato, CA: Presidio Press, 1986, p. 252.

152. Snow, p. 32.

153. Quoted in Zakaria, p. 25. See also Bacevich, "Learning from Aidid," p. 31.

154. Original emphasis. Zakaria, p. 28. See also Edwin J. Arnold, Jr., "The Use of Military Power in Pursuit of National Interests," *Parameters*, Vol. XXIV, No. 1, Spring 1994, p. 6; and Bernard Brodie, *War and Politics*, New York: Macmillan, 1973, Chapter 8.

155. Herman Kahn, *On Thermonuclear War*, Princeton: Princeton University Press, 1960, p. 287.

156. Thomas C. Shelling, *Arms and Influence*, New Haven: Yale University Press, 1966, Chapters 2 and 3.

157. Colin S. Gray, "Deterrence Resurrected: Revisiting Some Fundamentals," *Parameters*, Vol. XXI, No. 2, Summer 1991, pp. 15-16.

158. Zakaria, pp. 27 and 29.

159. Asmus, p. 61.

160. Unilateralist attempts in the Bush administration to create a strategy for dealing with future "A" category nations failed. Barton Gellman, "Keeping the U.S. First: Pentagon Would Preclude a Rival Superpower," *The Washington Post*, March 11, 1992, p. A-1; and Patrick E. Tyler, "Pentagon Drops Goal of Blocking New Superpowers," *The New York Times*, May 24, 1992, p. 1. See also Bernstein, pp. 62, 68 and 77; and Alan Gropman, "Peace Enforcement is an Oxymoron--It's Synonym is War," *Armed Forces Journal*, Vol. 131, No. 7, February 1994, p. 8.

161. Muravchik, pp. 21-22.

162. George Bush, "The Use of Military Force: The President's Difficult Choice," *Defense Issues*, Vol. 8, No. 1, 1993, pp. 2-3. See also Arnold, p. 9; and Bracken, p. 158.

163. Mazarr, p. 4.

164. Muravchek, pp. 23-24.

165. Glover, p. 43. But see Winston S. Churchill, *The Unknown War*, New York: Charles Scribner's Sons, 1931, p. 288, who quotes Kitchener: "We cannot make war as we ought; we can only make it as we can."

166. See Elkenberry, p. 18, who concludes, p. 20 "that casualty limitation, an issue that must often be addressed explicitly by statesmen, is best left unmentioned by the military in its doctrine, and instead considered seriously, but implicitly, as it plans for war."

167. Kohn, pp. 11-12; and Colonel Leonard Fullenkamp, USAWC, 23 March 1994.

168. Erich von Manstein, *Lost Victories*, Novato, CA: Presidio Press, 1982, p. 202. See also Bacevich, "New Rules," pp. 16-17; Michael Geyer, "German Strategy in the Age of Machine Warfare, 1914-1945," *Makers of Modern Strategy*, pp. 528, 581 and 585; Dennis E. Showalter, "A Dubious Heritage: The Military Legacy of the Russo-German War," *Air University Review*, Vol. 36, March-April 1985, p. 7, who concludes that in response to this strategic-operational disconnect, Hitler's field commanders responded "like short-money players in a table-stakes poker game, concentrating on winning battlefield victories to demonstrate their *virtu* and avert the end as long as possible"; and Barry Posen, *The Sources of Military Doctrine: France, Britain and Germany Between the World Wars*, Ithaca, NY: Cornell University Press, 1984, whose thesis is that military organizations will attempt to keep maximum independence from civilian leaders by structuring doctrine in such a way as to make it immune from political interference.

169. Neustadt and May, pp. 255-256.

170. *Ibid*., p. 256. See also *Ibid*., p. 251.

171. Howard, "Military Science," p. 8; and Toffler, p. 180.

172. FM 100-5, 1993, p.v. "There are some major departures from the previous doctrine, but great continuity as well." Franks, p. 7.

173. Gordon R. Sullivan, "From the Editor," Introduction to *Military Review*, Vol. LXIII, No. 12, December 1993, p. 1. "History, after all, has proved that learning organizations are winning organizations." *Ibid*.

174. McDonough, "Operational Art," p. 109.

175. Schneider, "Vulcan's Anvil," p. 22.

176. Bracken, p. 172. But see the great difficulty Andrew H. Higgins had in overcoming Navy and Marine Corps resistance to his concept for an assault boat based upon the design used in the Louisiana bayous by fur trappers and oil prospectors. John W. Mountcastle, "From Bayou to Beachhead: The Marines and Mr. Higgins," *Military Review*, Vol. LX, No. 3, March 1988, pp. 20-29.

177. Van Creveld, *Transformation of War*, p. 61. "Don't throw away your copy of *On War* just yet, for instead of being 'radical' van Creveld's reinterpretation of Clausewitz ends up just being silly." Harry G. Summers, Jr., "Book Review on Martin van Creveld's *The Transformation of War*," *Strategic Review*, Vol. XIX, No. 2, Spring 1991, p. 60. See also McKenzie, p. 58.

178. Michael Howard, "To the Ruthless Belong the Spoils," Book review of John Keegan's *A History of Warfare*, *The New York Times Book Review*, November 14, 1993, p. 10.

179. Bacevich, "New Rules," p. 19.

180. Michael Howard and C. R. English, *Report of the Committee of Enquiry Into Service Colleges*, July 29, 1966. Quoted in Michael Brock, "Michael Howard's Contribution to Historical Studies," *War, Strategy, and International Politics. Essays in Honour of Sir Michael Howard*, eds., Lawrence Freedman, Paul Hayes, Robert O'Neil, Oxford: Clarendon Press, 1992, p. 198.

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