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# Preparing for War in the 21st Century

PAUL VAN RIPER and ROBERT H. SCALES, JR.

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The US government has now embarked on its third major reassessment of current and future military requirements since the end of the Cold War. Given the lead-time involved in making any significant change in the nation's defense posture, the results of this review are likely to influence American military capabilities well into the next century. That's all the more reason to insist that any such reexamination of America's military requirements should reflect a clear understanding of the likely character of future war. Thus we are troubled by recent claims that technological supremacy will allow the United States in the future to abjure the use of ground combat forces in favor of delivering advanced precision weaponry from platforms remote from conflict areas.

This is not the first time we have been lured by promises of high-tech, bloodless victory. In the early 1950s, similar promises produced the New Look, a strategy proposing to rely on strategic nuclear weapons as an alternative to conventional warfare. Describing the origins of the New Look, one observer noted "the American yearning for some simple, single solution to all the bothersome and frustrating complexities of living in a world of perennial conflict."<sup>[1]</sup> Then, as today, optimists insisted that technological change had rendered conventional warfare obsolete. Events in Southeast Asia and elsewhere soon disabused them. But the resulting damage to conventional military capabilities persisted long after the United States had abandoned the New Look.

What overconfidence in nuclear weapons produced then, overconfidence in the microchip threatens to reproduce today. Recurring proposals to substitute advanced technology for conventional military capabilities reflect a peculiarly American faith in science's ability to engineer simple solutions to complex human problems. They also gratify both economic and political interests. That remains true even though the practical military effects of technological supremacy over the past half century have been equivocal at best. Such supremacy could not prevent Holland's defeat in Indonesia, France's defeats in Indochina and Algeria, America's defeat in Vietnam, the Soviet Union's defeat in Afghanistan, or Russia's more recent defeat in Chechnya. All these episodes confirm that technological superiority does not automatically guarantee victory on the battlefield, still less at the negotiating table.

Nonetheless, belief in the possibility of a technological "fix" for the challenges of war has shown astonishing persistence. In addition to its effect on force postures, it has significantly affected even how Americans define military success. That influence peaked during Vietnam, in which reliance on body counts and other quantitative "indicators" virtually replaced strategic reasoning. And while defeat in Vietnam temporarily discredited such mechanistic thinking, some still insist that a technological solution for war is "out there somewhere," if only we could discover it.

In an important sense, therefore, US military policy remains imprisoned in an unresolved dialectic between history and technology, between those for whom the past is prologue and those for whom it is irrelevant. Today's debate about the preferred structure of American military forces thus in the end is a debate about the future of war itself. The debate goes far beyond which weapons to buy or whether to favor this or that capability. At its heart, rarely considered and even less often articulated, are fundamentally incompatible views about the nature of war, about what conditions produce victory and defeat--indeed, how one should define these concepts--and ultimately, about the purpose for which we maintain military forces in the first place.

For those placing unbridled faith in technology, war is a predictable, if disorderly, phenomenon, defeat a matter of simple cost/benefit analysis, and the effectiveness of any military capability a finite calculus of targets destroyed and casualties inflicted. History paints a very different picture. Real war is an inherently uncertain enterprise in which chance, friction, and the limitations of the human mind under stress profoundly limit our ability to predict outcomes; in

which defeat to have any meaning must be inflicted above all in the minds of the defeated; and in which the ultimate purpose of military power is to assure that a trial at arms, should it occur, delivers an unambiguous political verdict.

Such a view of war does not discount the importance of technology. But it recognizes that technology is only one of many influences on the conduct and outcome of military operations, an influence mediated by the nature, scope, and locale of the conflict, the character and objectives of the combatants, the attitudes of local, domestic, and international publics, and above all, the political issues in dispute. Acknowledging war's inherent unpredictability, such a view of war renounces overreliance on any single capability, seeks maximum force versatility, and requires that military operations conform to the peculiar conditions and demands of the conflict itself.

America's military forces in the 21st century must exploit every advantage our technological genius can supply. But as we will argue in this article, the central ingredients of military victory or defeat will continue to reflect the enduring nature of war at least as much as the transient means used to prosecute it. And in the end, America's next war, like those which have preceded it, almost certainly will be won--or lost--on land.

From a geopolitical perspective, the world in which that war might erupt may be indefinite, but it is not indecipherable. On the contrary, it promises to look much like that of the late 19th century. As in that era, the principal engines of economic progress will continue to be the wealthy nations of Western Europe, North America, and the Asian rim. Political relations among these First World nations are, if anything, more stable than those which prevailed among the major powers after the Congress of Vienna, which inaugurated modern history's longest period of sustained great power peace. Healthy democracies, economic interdependence, cultural affinities, and the shared memory of two appalling world wars have created a community of interest that makes war among the developed democracies nearly unthinkable.

Unlike the major powers for 130 years after Napoleon, however, today's developed nations do not dominate the remainder of the world. Instead, they confront both developing states--some of which, like Russia, balance precariously between aspirations to join the developed world and the threat of political, economic, and demographic collapse--and Third World societies mired in economic and demographic misery. Nations in both groups tend to organize on different principles and operate on different premises from those of the developed democracies, and it is in relations within and among them that future military challenges are most likely to arise.

While some developing nations are poised economically to enter the developed world, neither political freedom nor respect for law, two of history's most reliable inhibitors of aggression, necessarily have accompanied their economic growth. Some, like China, continue to pursue irredentist claims against the territory of their neighbors. Others, like Iran, assert religious suzerainty over entire regions. All seek access to the raw resources that fuel development. And most continue to see war as a legitimate way of achieving their objectives. For many of these states, acquiring territory remains a basic impulse, for prestige if for no other reason. Armed aggression may not be their only or even their preferred means. But especially among states with authoritarian governments, the conquest of land remains a legitimate ambition, and given their own economic and strategic interests, the developed democracies cannot remain unaffected.

In the meantime, vast portions of the world are economically either stagnant or retrogressing. While the proximate causes may be violent, venal, or otherwise misguided governments, the fundamental problems are structural. Many Third World societies remain economically dependent on subsistence agriculture and simple mineral extraction. In the meantime, the introduction of modern medicine has accelerated a demographic explosion straining both their economic and political arrangements.

Among these societies, war tends to revert to its most primitive character. Driven by ethnic or tribal rivalries--themselves often a function of differential population growth--civil warfare will fester. Populous states will launch calculated invasions of less-crowded neighbors. Hordes of refugees will spill across borders provoking violence. And while war in the Third World may be waged with relatively unsophisticated forces, it frequently will drag on beyond any apparent strategic purpose, in part because it is aimed deliberately at depopulation. Finally, as recent events in Rwanda, Burundi, and Zaire illustrate, it often will manifest war's worst excesses--intentional starvation, extreme brutality, and mass slaughter.

In these unhappy struggles, the developed democracies typically will seek reasons not to intervene. But as we have seen already, media-generated public revulsion may compel intervention. The visual horrors of genocide may be intolerable. Humanitarian efforts may backfire, as they did in Somalia. Or the collapse of Third World societies, whether through internal dynamics or external invasion, may threaten to destabilize an economically vital region to the point where nonintervention is imprudent.

Finally, we will continue to confront military challenges from nongovernmental groups which fall neatly into none of these categories, but whose military capabilities and political, ideological, or economic objectives make them impervious to restraint by the civil police power. Such groups are far from a historical novelty, but their potential access to sophisticated military technology is unprecedented. They will remain among the most difficult military problems confronting us.

While the military challenges outlined in this appraisal vary in origin, kind, and degree of threat to US interests, all have one thing in common: In each case, strategic success ultimately will require the direct control of land, people, and resources. In confrontations with developing states, war is likely to be about the control of territory. In Third World episodes, it is likely to be about the control of populations. And suppressing terrorist and other nongovernmental challengers will require depriving them of political, psychological, and material support.

In none of these cases is technology alone likely to be decisive, and in many cases the very nature of the contest will restrict its use. Notwithstanding, some visionaries insist that emerging technologies will utterly transform the nature of war, permitting the defeat of future adversaries from a distance with no need to risk precious lives in the maelstrom of land combat. Such predictions ignore both war's inherent uncertainty and what we have learned about military victory and defeat in our own time.

Soldiers and Marines intuitively recognize the limits of prediction, and increasingly, even physical scientists share that recognition. From quantum physics to meteorology, science has become aware that "nonlinear" interactions pervade the natural world. We call such interactions "chaotic," and where they predominate, confident prediction is impossible. If that is true even of the apparent regularities of nature, how much more true must it be of war? As Clausewitz noted long ago, "No other human activity is so continuously or universally bound up with chance." [2] Indeed, Clausewitz remains relevant today largely because his work is "suffused with the understanding that every war is inherently a nonlinear phenomenon, the conduct of which changes its character in ways that cannot be analytically predicted." [3]

Recognizing that, observers as far back as Thucydides have insisted that war can be perceived accurately only through the lens of history. To be useful, military theory must be grounded in the known realities of the past, not because the past repeats itself in specific ways, but rather because it reveals aspects of war which are timeless.

One such enduring feature is the invariable subordination of war to politics. "War is not a mere act of policy," Clausewitz asserted, "but a true political instrument, a continuation of political activity by other means. . . . War should never be thought of as something autonomous, but always as an instrument of policy." [4] In one way or another, political considerations always condition military operations. Allied commanders rediscovered that enduring reality at the outset of the Gulf War air campaign, when two bombs aimed at a secret police communications bunker in the heart of Baghdad destroyed not only the bunker, but also some 200 civilians sheltering inside it. Political reaction to CNN's telecast the following morning resulted in the abrupt curtailment of all attacks on the downtown Baghdad area. [5] In the process, it also removed any possibility of destroying the political infrastructure of Saddam Hussein's tyrannical regime.

As this incident confirmed, war in practice is hostage to political concerns that routinely preclude the unconstrained employment of military means. Such concerns tend to be highly situational, hence unpredictable. For that reason alone, the mere possession of advanced technology is no guarantee of its practical utility.

The second and most pervasive of war's enduring characteristics is what Clausewitz called "friction." "Everything in war is very simple," he observed, "but the simplest thing is difficult. The difficulties accumulate and end by producing a kind of friction that is inconceivable unless one has experienced war." [6] In battle, danger, confusion, fear, fatigue,

and discomfort combine with a hostile physical environment to curtail the effective performance of both men and machines. Moreover, as battlefields enlarge, formations disperse, and operations accelerate, these stresses increase, even as familiar sources of physical and psychological support--proximity to other units, lulls in activity, and the comfort of known ground--diminish. Hence the laboratory at best is an imperfect predictor of battlefield effectiveness; and even where the employment of advanced technology is politically unconstrained, it is far from a military panacea.

The stresses of battle, finally, merely are compounded for leaders, who must make crucial decisions with little time for reflection and in a welter of typically ambiguous information. "In the dreadful presence of suffering and danger," Clausewitz reminds us, "emotion can easily overwhelm intellectual conviction, and in this psychological fog it is . . . hard to form clear and complete insights." [7] Hence the profound danger of claims like those of certain Washington consultants who have asserted, "What the [Military Technical Revolution] promises, more than precision attacks and laser beams, is . . . to imbue the information loop with near-perfect clarity." [8]

Such arguments verge on the theological, having neither scientific nor historical foundation. On the contrary, as one observer has noted, "Much of the particular information which any individual possesses can be used only to the extent to which he himself can use it in his own decisions. Nobody can communicate to another all he knows, because much of the information he can make use of, he himself will elicit only in the process of making plans of action." [9] Similarly in war, there simply are too many critical pieces of information inaccessible to sensors and beyond the power of computers.

In an information-rich environment in which what matters remains buried in noise, individuals at every level are limited in both what they can absorb and what they can pass along. And the more oppressed by danger and fatigue, the more vulnerable they become to both inadvertent misunderstanding and deliberate deception.

It is above all the interactive--indeed, antagonistic--quality of war that makes it unpredictable. "War is not waged against an abstract enemy," Clausewitz points out, "but against a real one." [10] America's adversaries in the next century will have options no matter what our technological advantages. Political limitation, friction, and fog are not artifacts of history, but rather conditions embedded in the fabric of war. To suppose that technology could eliminate them from the battlefield thus flies in the face of the natural world as it is.

Instead, 2500 years of history confirm that ambiguity, miscalculation, incompetence, and above all chance will continue to dominate the conduct of war. In the end, the incalculables of determination, morale, fighting skill, and leadership far more than technology will determine who wins and who loses.

Acknowledging war's inherent uncertainty by no means argues for ignoring technology. On the contrary, advanced information and munitions technologies already have had a significant influence on Army and Marine Corps doctrine. Some believe they may radically alter the relationship between maneuver and firepower, just as the tank and airplane did from 1918 to 1939. And every modern armed force must cope with increasing battlefield transparency, munitions lethality, information overload, and logistical vulnerability.

Our objection is not to technology itself, but rather to claims that it will permit the achievement of victory by distant punishment alone, with no need to exert direct and continuing influence over the land, people, and resources which are war's ultimate stakes. In addition to what history reveals about the inherent nature of war, our own military experience in this century argues the contrary.

That experience repeatedly has confirmed that distant punishment unexploited by the physical domination of ground is a wasting asset. From Verdun to Cassino, the Iron Triangle to Al Busayyah, firepower alone, even when delivered on a massive scale, rarely has proved capable of ejecting determined troops from the ground they occupy. Even massive bombing in the Gulf War, for all its destructive and demoralizing effect on the Iraqi army, could not by itself induce that army's withdrawal from Kuwait.

What is true of firepower delivered against troops in the field may be even truer of firepower delivered directly against an opponent's civil infrastructure. In fact, the evidence suggests that such efforts readily backfire, particularly when directed against opponents whose leaders can manipulate their publics' interpretation of events. We also must be

concerned with the reactions of our own citizens as they watch modern weapons exploding among apparently defenseless populations, a problem likely to intensify as the developing states which represent the most probable loci of future high-intensity conflict continue to urbanize.

Some argue that the increased precision of emerging munitions will limit collateral damage, making less likely both psychological stiffening on an enemy's part and psychological revulsion on our own. But precision means one thing applied to military forces in the field, quite another applied to heavily populated urban areas. Indeed, fear of media reaction to the scenes of carnage even among military targets along Kuwait's "Highway of Death" in part explains the Bush Administration's decision to end hostilities in the Gulf War after 100 hours, though all the objectives of the ground offensive had yet to be achieved.[11]

There certainly have been a few cases in which the limited use of distant firepower alone produced strategic results. Air attacks against Libya in 1986, for example, seem effectively to have diminished Muammar Gaddafi's eagerness openly to challenge the United States. In such cases, in which objectives are limited or merely demonstrative, distant punishment may well curb hostile behavior. But it is unlikely in any permanent way to resolve the underlying issue, as the history of the 1965-68 air campaign against North Vietnam underlines. Rather, every such application of distant firepower risks the embarrassing possibility that the recipient simply will ignore the attack, forcing the attacker to choose between escalation or impotence.

In short, overreliance on distant punishment ignores the psychology of an opponent's will to resist. There is an enormous difference between enduring distant attack, which however unpleasant must eventually end, and enduring the physical presence of a conquering army with all of its political and sociological implications. We should not lose sight of the difference between a Kuwait liberated by ground forces and an Iraq still truculent and combative, however ravaged by air attack.

The fundamental limitation of distant punishment is that it commits without resolving. Notwithstanding, its ease of use and apparent low risk make it deceptively attractive in cases where US strategic interests are limited or ambiguous. Some even have urged redesigning American military forces specifically for intervention in such cases.[12] Such proposals are a gilt-edged invitation to back into war, and ignore everything we have learned so painfully over the past half-century about the incremental use of force.

If resolution and durability are among the most important and irreplaceable contributions of land forces to victory in war and deterrence in peace, they are by no means the only ones. In the geopolitical environment forecast earlier, strategic success will place a premium on military versatility. Even the United States cannot afford to maintain capabilities tailored discretely to every potential military challenge, nor will any single capability accommodate all such challenges. Instead, American military forces must be capable of rapid adaptation to a broad and constantly varying range of strategic tasks and conditions.

Ground forces remain the indispensable foundation of that strategic versatility. Air and naval capabilities complement but can never replace the ability to deploy ground forces tailored to the peculiar conditions and objectives of a given conflict. To say that in no way deprecates their importance. No American commander today would consider launching ground combat operations without command of the air and space, nor littoral operations without command of the sea. Moreover, as the United States continues to shift from a forward deployed to an expeditionary force posture, dependence on both aerospace and naval capabilities will increase merely to ensure ground forces reach the theater of operations rapidly and safely. Hence to insist that future US military operations will inherently be joint is not just rhetoric but rather frank acknowledgment of strategic and operational imperatives. But only in unusual conditions will air, sea, or space operations alone produce decisive strategic results. In almost every circumstance, the effective integration of all components--land, sea, air, and space--will be required.

Moreover, US military forces exist to deter as well as fight. Even after a half century of practice, our understanding of the dynamics of deterrence remains imperfect, but we have learned that a key requirement is making a deterrent threat credible. One of the central arguments for relying upon the threat of distant punishment is that its presumed low risk enhances that credibility. As we have seen, however, situations in which distant punishment alone is likely to be effective are precisely those in which the issues in dispute are least fundamental. The greater the stakes, the less likely

that distant attack alone will produce a favorable strategic result. It follows that the greater the stakes, the less likely that the threat of such attack alone will deter.

Instead, reconciling credibility with effectiveness requires operational seamlessness. Deterrence is most likely to succeed when complementary capabilities reinforce each other, and when all contribute in a credible way to the assurance of victory should deterrence fail. That emerging precision attack systems promise more effectively to kill people and break things is not at issue. The challenge will be to translate those essentially tactical effects into strategic results. And the principal mechanism of that translation will remain an unrivaled land combat capability.

There is one additional reason why emerging technologies must be designed to enhance rather than replace land power. Whether to deter or fight, the United States probably will confront future adversaries as a member of an alliance. We have nearly a century of experience with alliances. And if one lesson can be drawn from that experience, it is that presence on the ground is an irreducible bonafide of alliance commitment, especially for the nation claiming leadership of that alliance.

Central to alliance commitment is the requirement to share risk. Thus, Sir Basil Liddell Hart's effort in the 1930s to restrict the continental role of British ground forces not only diminished deterrence, but also led to doctrinal and material stagnation for which the British paid a heavy price when deterrence failed.[13] More recently, repeated US efforts to "rationalize" America's NATO contributions by substituting air for ground forces in return for greater European ground force contributions invariably foundered over the principle of shared risk.

The reality is that ground combat forces represent the strongest evidence of alliance commitment. That, and the fact that their deployment alone conveys an intention to remain engaged for the duration, make them the irreplaceable adhesive of any military coalition.

Any sustained period of peace challenges military institutions. It requires holding on to the immutable and terrifying realities of war in a climate of peacetime pursuits and ease, because only by an understanding of what war has been can we hope to glimpse what it will be. To prepare for the future, we must keep our grip on the past.

America's performance in its first battles rarely has been impressive.[14] The Gulf War broke the mold. For once, America took the field with a team that was ready to play. And the result was the shortest, most successful, and in American lives least expensive military campaign in modern history.

But the military forces which won that war had been built to fight another, and in that fact there is a stern warning for today's planners. In an uncertain world, we dare not base force requirements on preconceived assumptions about whom we might fight in the next century or how. Instead, American military forces must be able to fight and win on any battlefield, under any conditions, and with whatever means the nature of the contest requires. And to do that, America will need robust, well-equipped, and sustainable land combat capabilities as far ahead as we can foresee.

Innovative application of emerging technology will enhance those capabilities. But in the end, war is a contest of human wills, not machines, in which means must be subordinated to ends if the results are to justify the costs. In the world we confront, those ends are likely to be more complicated, and the circumstances in which they must be pursued less predictable, than ever before in our history. A military posture that evades rather than accommodates that reality is doomed to expensive irrelevance.

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## NOTES

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