Paradoxes of War

By GRANT T. HAMMOND

Oil field set ablaze by retreating Iraqis.

ncreasingly the use of force is a last resort of industrialized nations. This is an admission of defeat since war can no longer be rationalized in economic terms. Force is most effective when one possesses it but is not compelled to use it. Conventional or nuclear conflicts, the Persian Gulf War notwithstanding, are not worth the costs for the losers, and in many cases not for the victors. Bankruptcy, moral or financial, may be the shared outcome for all parties to future conflicts.

The image of war, shaped over centuries, is precise, graphic, and evocative. It is marked by battles: expenditures of blood and treasure sufficient to achieve military objectives that lead to new international alignments. Although this image is common and compelling, it is increasingly irrelevant; it reflects outdated, simplistic, even romantic ideas about winning and losing. It is an image of war based on paradoxes that should be obvious on reflection, but that have been elusive in developing new concepts for national security policy and military strategy.

Paradoxes are variously defined as tenets contrary to conventional wisdom, arguments that yield seemingly self-contradictory conclusions, and statements that run counter to common sense. While much has been said about the search for a new

Summary

War is apt to defy its traditional image in the future. If the end of past wars was to win by fighting better than one's adversary (violence marked by a hardware-driven, physical contest to destroy the enemy's means), the end of future wars may be *not* to lose by *not* fighting an adversary (peaceful competition characterized by a software-driven, moral and cerebral contest to change perceptions). This is not simply a choice between conventional and unconventional images of war. We must reinvent war by redefining its nature. Armed conflict as it has been known is beyond the capacity of most nations today. Military victory no longer enjoys the cachet that it once bore. By understanding the paradoxes of war we will help to ensure the future success of the Armed Forces.

paradigm of national security, there is a good deal to be gained from reexamining old paradoxes. The importance of paradoxes to understanding war is so vital as to be transforming. Future wars are likely to be fought with different insights, using different means, and on different levels. Absent appropriate strategies, operational concepts, and tactics under this new set of circumstances, the Nation will fail to prevail.

The Image of War

Perceiving war as a contest marked by the use of force is a woefully incomplete, tragically simplistic, and fundamentally flawed view. The consequences of such an image are profound. By not grasping the nature of war, waging war has become a needlessly spendthrift exercise in lives and resources, however well fought. Wars are messy, unpredictable, costly, inefficient, and often ineffective. While war has been a major instrument of change across history, it is an increasingly unaffordable activity by most measures. It has been a means of state creation and state destruction. Slaughter on a grand scale using unsophisticated but lethal weapons will continue. Further, war will evolve into a more carefully crafted form of conflict with a different set of dynamics than in the past.

War may be transformed by changes in ends as well as in means. Conflicts may occur in periods outwardly indistinguishable from peace and may not involve any forcible rearrangement of territory, interests, or resources. Such conflicts may be managed shifts in the *status quo*. In short, a future war among industrialized states, even if effective and efficient, could be virtually invisible. It is likely to be an information war at least in part, waged between the perceptions of adversaries. It will involve legions of data flows, competing information systems marshaled and sequenced like troops, aircraft, and ships. The sand table will be mental and emotional virtual war, no less deadly and

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real. The Armed Forces must make major adjustments to be successful in such conflicts.

The accompanying table (Images of War) contrasts the received wisdom about war with the reality. The conventional image is the paradigm for describing, explaining, and predicting war; the unconventional image reflects the reality of waging war in the future.

This is not a case of either/or. We need *not* select one image of war to the exclusion of the other. Rather, we must reformulate the notion of war to include the unconventional as well as the conventional. The nature of wars—the arms with which they are fought, objectives for which they are waged, and means by which they are sustained—is at once more basic and complex than one would believe.

The elements of the paradoxes of war are not novel. Most have been known for millennia. Sun Tzu argued nearly 2,500 years ago that war is based upon deception, and that the acme of skill is to subdue enemies without fighting them.[1] While the reluctance to accept this truth is the subject of other discourses, suffice it to say that the insight found in these paradoxes when taken collectively leaves no alternative but to alter the paradigm of war. Failing to do so will virtually guarantee the inability of the Nation to compete successfully in the post-Cold War world. The Persian Gulf War then— which some argue the coalition forces *did not win* and Saddam's army *did not lose*—is but a foretaste of the disappointment to be experienced unless we change our understanding of war.

Conflict versus Competition

When a contest by force of arms occurs the results of peacetime military decisions are either validated or invalidated. It is prior to a physical contest that weapons are designed and procured, strategy and tactics are developed, and training is accomplished. Thus wars are often won or lost before a shot is fired. Great leaders, technological breakthroughs, and luck may change outcomes, but such events are rare and do not constitute a sound strategy. The Battle of Britain exhibited all three factors but the outcome was nonetheless extremely close.

In his essay "The Moral Equivalent of War" William James stated: "The intensely

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Images of War

Conventional Image	Unconventional Image
violent conflict	peaceful competition
physical contest	intellectual contest
waged in space	waged in time
act of destruction	process of creation
begun and ended by physical attack	begun and ended for moral purpose
focused on adversary's means	focused on adversary's perceptions
tangible measures	intangible measures
hardware-driven	software-driven
determined by winning battles	determined by peacetime preparedness
aim of war is to win	aim of war is not to lose
win by fighting better	better to win by not fighting

sharp competitive preparation for war by the nation is the real war, permanent, unceasing . . . the battles are only a sort of public vindication of mastery gained during the *peace* intervals."[2] Thus the thing called war is not real war, and it is won or lost, planned or sought, fought or avoided in the minds of those who prepare for it in periods of supposed peace. An interval of nonhostility is not benign but instead a contest in preparedness. It constitutes the essence of the demonstration of fighting capability which we call war.[3] To wait for armed conflict as the test of strength may be to lose. It will be too late to amass the human capital, materiel, and moral purpose to ensure victory.

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Physical versus Intellectual

If one could determine winners in advance, it wouldn't be necessary to compete in order to validate previous analysis. But there is no absolute certainty which is the reason why the stadium, track, ring, and other venues attract the wagerer. The same is true of wars. Billions of dollars are bet on the outcome of contests conducted by the force of arms. But if one knows an adversary and his orientation; understands his culture, language, and personality; grasps his frame of reference; and shapes his choices, one might influence his actions and reactions without resorting to force. If the acme of martial skill is to subdue an enemy without fighting him as Sun Tzu suggested, then we must invest heavily in the mental and the moral aspects of war, not merely the physical. This means that intelligence, deception, diplomacy, and other measures assume a much higher priority. Knowing an adversary's culture, religion, and perceptions is as important as training, organizing, and equipping forces. Again, this is not a novel insight but it is underemphasized. Our infatuation with national technical means often eclipses more basic knowledge. Cultural anthropology may be as important to success in war as intelligence gathered from satellite imagery.

Knowing how one's adversary—the leadership and society—sees things is paramount and may well determine success or failure in a contest. The Tet offensive, although unintended, is an example. Despite the physical defeat of North Vietnamese and Viet Cong forces, Tet represented a political and moral victory of immense proportions for Hanoi. Americans had come to believe that the enemy was incapable of launching a major attack, and subsequently many people turned against the government for lying about the conduct of the war.

Space versus Time

Most images of war are linked to destroying an enemy, controlling resources, maintaining sovereignty, and rearranging territory. Yet wars are won or lost, begun and ended, and conducted in time as well as space, with time normally the more important factor. Had Germany won a victory over Russia sooner and not had to wage a winter campaign, had American aircraft at Midway not found the Japanese just prior to turning back to their carriers, and had Israel not learned to evade SAMs in the Yom Kippur war, the outcomes of those conflicts would have been vastly different. But it is only recently and largely through the work of John Boyd[4] that

Navy SEAL team.

and rearrange information. Such mental abilities—the capacity for improvisation—are the essence of war. Both destruction and creation are processes of war.[6]

Things don't always proceed as planned and the consequences of losing wars or destroying more than necessary in the process are major risks in both preparing for war and the contest of arms itself. Understanding the necessity for destruction as a condition for creation is the beginning of wisdom. New ideas can rearrange the cosmos.

War, even notional war via arms races and deterrence, rests upon mental destruction and creation that must precede efforts at physical destruction and creation. Thus war, a product of the minds of men, is a product of mental destruction and creation, not merely physical destruction. It is waged for creative purposes, to bring about a new end-state fundamentally different from what went before. War is destruction but is always an act of creation. To win one must create a new set of circumstance. Success or failure in not having to fight—as well as in the conduct of war—is dependent on one's capacity for creativity and vision. That vision may be applied by appeasement or force, intimidation or deterrence, and strategies of counter-value or counter-force. Ultimately war is a creative act, for it seeks to bring about something new, including relationships different from those which existed beforehand.

we have come to appreciate the role that time plays in war and the importance of cyclical time in the nature of conflicts.

Conquest of territory has little to do with success in modern war involving technologically advanced societies. But the timing of an attack, intelligence, supplies, and fire support are critical to success or failure. Gaining or losing territory merely confirms timing. Put simply by Nathan Bedford Forrest, winning is getting there "first with the most men."[5] Getting there at the right time is as important as getting to the right place.

Destruction versus Creation

In order to create, one must destroy. Whether one constructs an edifice and rearranges the landscape in the process, designs a new product from previously unconnected components, or has an idea that transforms extant assumptions, relations, and insights, one destroys the present, the inherited, to create the new. Destructive deduction is a prerequisite to learning. Creation rests on a flash of insight, a brilliant extension, a novel methodology or juxtaposition of ideas; and it leads to new possibilities. Creation also requires integration, imagination, and innovation. One must go beyond the bounds of conventional wisdom in revising, recombining, and reordering concepts that lead to progress. One has to demythologize, unlearn, and forget past ways of ordering information in order to see things more clearly

Physical Attack versus Moral Purpose

War in this century has hinged in the main on questions of moral purpose rather than mere physical attack. Although some slogans of attack (such as "Remember the Maine") have served as rallying cries, the nature of conflict is best captured in camp songs; in the literature, art, and cinema of the home front; or in propaganda posters that mirror the moral essence of soldierly virtues such as kill or die. Images count and motivate. The significance of physical attacks in two world wars (for example, sinking the *Lusitania* and attacking Pearl Harbor) certainly cannot be discounted as causes for drawing the United States into those conflicts. But freedom of the seas, going to war to end all wars, the imperative to aid Britain, and the dangers posed by a Fascist-dominated world were issues of equal or even greater importance. U.S. involvement in

Korea and Vietnam hinged as much on the moral abhorrence of communism and need to play the role of a credible leader and ally as on prosaic self-interests or military threats. America stated that Korea did not fall within its strategic interests and that Vietnam was basically a matter of principle. The lack of clear economic self-interest in both situations made a mockery of Marxist critiques of American foreign policy. It took a dozen Security Council resolutions to convince Congress of the righteousness of liberating Kuwait and even then the vote was close, despite the threat which Iraqi aggression posed to oil supplies for industrialized nations.

Those wars ended with considerations of values and morality as much as the consequences of physical attack. In World War I, Germany sued for peace based on Wilson's Fourteen Points and in turn got article 231 of the Versailles Treaty, the infamous *war guilt* clause. Such terms and the lack of a definitive defeat on the battlefield gave rise to an era which E.H. Carr characterized as *The Twenty Years' Crisis, 1919–1937* in the title of his book on the interwar period. At the end of World War II the Japanese held out, despite conventional destruction of their cities and two atomic bombs, until they were given guarantees on the survival of the emperor. This was a moral issue of such great importance to Japan that it was virtually non-negotiable even in the face of total defeat.

In Korea the truce talks stalled for nearly two years over the issue of repatriating prisoners of war. In Vietnam concern for a so-called *peace with honor*, as hollow as that phrase is today, dominated policy and was coupled with the inability to wage a war that the public deemed *immoral.* The decision to halt the Persian Gulf War was at least characterized as arising out of moral concern for needless slaughter on the so-called "highway of death" and the accomplishment of the purpose for which the war had been ostensibly waged, liberating Kuwait.
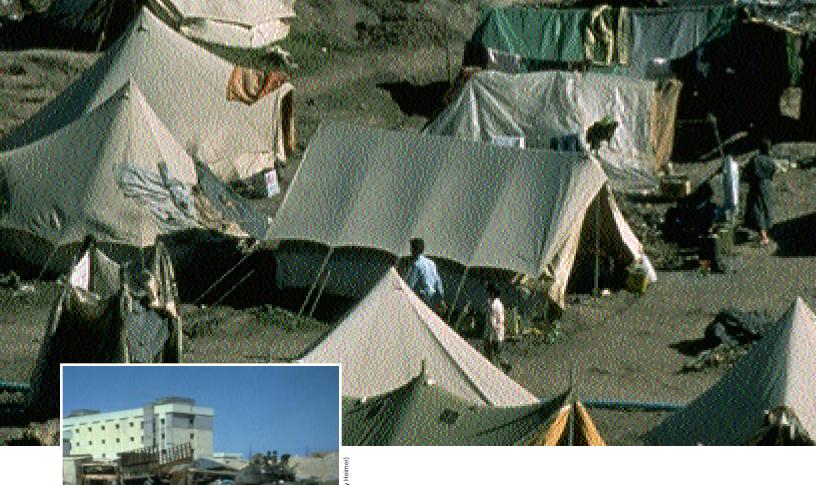
Means versus Perceptions

The means of war, the capabilities, and bean counting comparative force levels are judged to be important and are what often capture attention; yet they are but the outward aspects of a much more complicated process. Wars can occur by accident and misunderstanding or through knowing one's enemy only too well.[8] But the perceptions of would-be adversaries are just as important as the means by which they accomplish their ends. Perception precedes capability. Realizing that one has something to fear is an *a priori* for acquiring the wherewithal to defend oneself or to attack an adversary. As Geoffrey Blainey describes the concept of an arms race:

It is commonly seen as an intentional preparation for war, a competition which brings war closer, but it may be rather a deliberate postponing of war, an attempt to use stronger threats in preference to war. Whether it ends in war depends not on accidents and misunderstandings; it depends ultimately on the rival nations' perceptions of their power to defeat one another.[9]

Modulating an adversary's perception is critical. Creating illusion—or misconception—so he may deceive himself is the highest act of the military art. To have him decide not to undertake a course of action that is not in your interest (by having him see it is not in his) is the penultimate use of diplomacy and force in pursuit of national objectives—subduing an enemy without fighting him. But to do so in a way that he doesn't realize it has occurred is the ultimate strategic accomplishment. Thus an important element of war is perceptions on which action is taken or avoided. Modulating perceptions is just as critical as acquiring capabilities: they should be mutually reinforcing.

Tangible versus Intangible

The traditional measures of success in war include enemy territory taken, casualties inflicted, and infrastructure and assets destroyed. These are large, fairly public events given added meaning by CNN cameras on both sides of the fighting in the Gulf War. How relevant are they? Do they represent a scorecard in ancient or modern warfare? What about intangible measures? What are they and how might they be important to strategic calculus? Such questions are worth considerable thought. The answers suggest that intangibles matter more than other measures, that commitment, loyalty, religion, zeal, and ritual are force multipliers. The Japanese code of *Bushido*, the *omerto* of mafia soldiers, the discipline of Indian warriors, the

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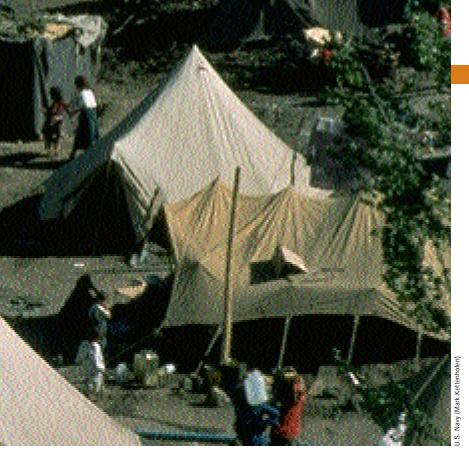
Iraqi tank north of Kuwait City.

privations which prisoners endure rather than reveal information to an enemy, all speak to the power of intangibles. Dedication, motivation, and courage, and their absence, are as important to success in war as quantitative measures of military strength. Morale is always the great unknown in combat. Underdogs sometimes defy rational odds and win. Commitment can be more important than weaponry, a fact that Finns, Israelis, Americans, and others have learned from experience.

The wisdom of this paradox is contained in Stalin's quip: "The Pope! How many divisions does he have?" [10] None. But that did not mean that a Polish Pope couldn't contribute to the rise of Solidarity in a staunchly Catholic country. This posed a dilemma for the Soviet Union that had to be handled more gingerly by the Kremlin than if the Pope had been born in the Apennines. Manpower and weapons are important, but so are symbols and values. Causes, allegiances, and affinities are major determinants of human action. Values are the motivation for initiating, sustaining, or rallying men and women to make extraordinary sacrifices for their beliefs. Heroism and greatness are often seen as defying the odds. The triumph is not due to faith in arms, but to devotion to principles, ideology, God, country, or Volk. Intangibles—what one will die for—motivate action, and have little or nothing to do with the physical capabilities at our disposal.

Hardware versus Software

The size of military units and relative lethality of weaponry—the standard benchmarks for comparative force level analysis—while not inconsequential, are becoming increasingly secondary. Bean counting is less relevant to winning a war than more sophisticated knowledge. Increasingly military capabilities are concerned with software rather than hardware—with those ideas, concepts, and linkages that gather, sort, disseminate, and apply information. Although an obvious analog, software in the computer usage sense is only part of the unconventional image of war. No modern military force can operate without remote sensors, computer interfaces, telecommunication linkages, or navigational and surveillance systems—all dependent upon sophisticated software.

Kurdish refugee camp at Yekmel.

U.S. Navy (Mark Kettenhofen)

But that software is itself the product of a larger and more complex vision and architecture of a higher order of complexity. The concept of communication as a process, of data as a product, of time measured in nanoseconds, and of the systemic vision of data as crucial to action is itself a revolution made possible by technology. The information age and the ability to render hierarchies ineffective is crucial to understanding future high-tech wars. We are now approaching the military-political equivalent of the *priesthood of all believers*. No particular node or hierarchy is required to empower an agent to exercise command and control. Clausewitz's *center of gravity* gives way to a set of complex non-cooperative centers of gravity. Traditional targeting becomes so complex that it is almost impossible in an era of notebook computers and data networks that are global, redundant, and nearly instantaneous. Knowledge itself is the ultimate software, diffuse and deadly, and more fundamental than the hardware which does its bidding. Networks not weapons, brains not arms, and ideas not things become the real targets of warfare

Battles versus Preparedness

Observing the long period of relative peace in Europe during the 19th century, one historian noted: "Armed forces were not intended primarily for use in war; they were to

bring victory . . . by forcing rival states to give way without an armed encounter."[11] Preparing for war and deterring it, intimidating an adversary by acquiring force but not using it (an arms race, however costly), was cheaper than war and more efficient. As William James pointed out, preparedness is unceasing, sharply competitive, and determines who will gain mastery by force. But such competition is even more. If conducted skillfully, there need not be a clash of arms. The real success of preparedness is to have force and not have to use it, to intimidate an adversary by a threat of force rather than its application. The lesson is simple: a cold war is better than a hot one.

Winning versus Not Losing

It is not necessary in many cases to win a war in the traditional military sense of battlefield victory to profit politically from the encounter. Increasingly the center of gravity is public opinion. A preoccupation with fighting only short, high-tech, low casualty wars is virtually a tenet of U.S. national military strategy. It is a weakness, not a strength. The Gulf War is only the latest version of this fetish. If war lasts long enough or the casualties are high enough (like Korea and Vietnam) the adversary does not have to win militarily. Rather, he has only to not lose. The same may be said of the Gulf War where Saddam Hussein did not need to win, only survive. Ironically, he is still in power and his nemesis, George Bush, has left the scene. Depending on one's score card and priorities, it is not necessary to win militarily to win politically. Saddam crushed the Kurdish and Shiia opposition, and his Republican Guard and nuclear capabilities were not as badly damaged as originally thought. He did not win but neither was he defeated politically. The end state of the Gulf War does not look much different in many ways from the pre-war conditions of 1990. Despite being defeated decisively according to traditional score card metrics, Iraqi forces did not really suffer a crushing defeat since for the most part they did not fight. They survived and may be roughly as formidable militarily in the near-term as they were before the Gulf War.

Fighting versus Not Fighting

Preparedness is essential, but its purpose initially is to acquire weapons without having to use them. As Bernard Brodie stated, particularly for the nuclear era, "Thus far the chief purpose of our military establishment has been to win wars. From now on, its chief purpose must be to avoid them."[12] The military mind finds redundancy a proper test of efficiency. The more overwhelming the force, the fewer the casualties suffered. For democracies firepower is preferable to man-power, though totalitarian regimes reverse the equation. To a civilian efficiency is defined as having just enough to accomplish the task. Any extra is unnecessary and wasteful. To the military overkill and redundancy in the form of overwhelming force is preferred for efficiency. Better yet is the ability to deter so one will not have to fight. Intimidation may be preferred to combat unless pure punishment is the intent. Proven superiority is preferred to parity, parity is better than inferiority, and suicidal sacrifice is better than surrender. But intimidation by amassing force, inferred if not outright superiority (through technology, force levels, commitment, and diplomacy or deception), and winning without fighting are preferable to a contest of arms.

there is little, if anything, purely immutable about war

Acquisition of sufficient force, training, and national will are prerequisites for intimidation short of war. Often it is only by demonstrating a willingness to go to war that the requirement to do so can be avoided. There is a wide variance in the way capabilities may be used to accomplish national objectives. Failing to look at the unconventional image of war may lead to defeat through a number of routes. We can divest ourselves of capabilities (means), be unclear of our objectives (ends), or be incapable of matching the ends and means. Such could well prove fatal.

From Paradox to Paradigm

In sum these paradoxes reveal what may be a simplistic and potentially disastrous view of war in terms of its costs and consequences. Competition leading to confrontation and ultimately to war is far more sophisticated than most decisionmakers and the public realize. The game is chess, not checkers: it involves maneuver, positioning, timing, and consequences several moves ahead. One wins by convincing an adversary to concede, not by destroying him through taking his pieces from the board. War is an art as much as a science, a human and not mechanical process. As such, it is subject to the entire spectrum of human frailties. Understanding ourselves as well as our adversaries is a difficult but necessary exercise. Focusing on these paradoxes may help to prevent the self-deception of incomplete images of war and its causes, conduct, and consequences.

War is the product of human interaction. It has definable qualities and character only with reference to the way in which it is envisioned and carried out by people. There is little, if anything, purely immutable about war. All wars are unique. "War" is a linguistic and mental category like the reference to "humankind" as people; but we should not be more precise about its attributes than very low level generalizations allow. War may assume whatever form or substance that one wants to give it. It is not static but dynamic. It is not readily definable, predictable, or rule-following. Military institutions which fight wars are much more so. We should not confuse the characteristics of military forces or their capabilities with war, or the process of conflict among or between states and state-like groups.

We will never know in detail or advance the ways in which war will occur, unfold, or end. Nor can we take for granted that the assumptions which we bring to war are shared by either allies or adversaries. We can't control them, but we can shape them. We must challenge assumptions, be creative in approaching a conflict, and discard any limitations on our vision.

Writers as disparate as St. Augustine of Hippo and T.S. Eliot have reminded us that all time is present time. The past is present memory, the present is current reality, and the future is present expectation. We are tethered to the present and to an understanding of our situation in ways that are difficult but not impossible to overcome. We need not accept someone else's definition of the situation, alternatives, or preferred outcomes. Neither ends nor means are imposed

EC–130 mission supporting Deny Flight.

Combat Camera Imagery (Ken Wright)

on us. We can plan and conduct war in ways that are limited only by our own imagination and creativity.

Our perception of the world may not reflect reality. We should challenge our assumptions, descriptions, explanations, methodologies, and conclusions. There are different ways to deal with problems. Finding them demands courage, purpose, and persistence. Like the near-sighted Texan who when challenged to a duel selected double-barreled shotguns across a card table as his weapon of choice, it is possible to redefine the conditions, stakes, and outcome.

When actual conflict is required we must fight better and smarter. No doubt there is a role for technological exploitation but it is not a panacea. Salvation lies in figuring out how to marshal one's talents to spar intellectually, morally, and technologically with opponents so as not to have to fight save under grave and rare circumstances. This calls for a new concept of war. Although it is not a precise analogy, the term *war of nerves* which originated in 1939 to describe psychological tactics of bluff, threat, and intimidation suggests the idea. We may destroy an enemy's will not by defeating armies or leveling factories but by convincing him that it is not in his self-interest to fight.

The decision to fight involves imposing one's vision of the world on reality, either present or future. Focusing directly on an enemy's perceptions and will should be the target. War is first and foremost neurological, a mental process. It involves getting into an enemy's decisionmaking loop[13] to confound his plans by creating indecision and confusion. It is, positively and negatively, a way to shape the environment—in short, to impose mind over matter.

What are the consequences of these insights? In Lenin's words, "What's to be done?" The answer is that there are profound consequences and much to be done. If these paradoxical insights are correct, they suggest a revolution in the way we define, prepare for, and fight war as well as a transformation in our understanding of its nature and role in the 21st century. War, according to Richard Szafranski, will become increasingly "neo-cortical." It will be waged without traditional weaponry. It will involve a complex of interlocking intelligence, communications, diplomacy, and psychology in continuous *cold* rather than *hot* wars, at least among advanced industrial societies. There will continue to be war caused by ethnic rivalries—bloody affairs of unremitting cruelty. But some will reject this sort of struggle and fight in other ways with different weapons. Not to heed the demands of such conflicts is to surrender by default. In terms of preparing for third wave wars of the information era as portrayed by the Tofflers,[14] or the vision of "cyberwar" as conjured by John Arguilla and David Ronfeldt,[15] knowing the subtleties of the unconventional image of war is essential, for the image acknowledges a condition of instability, not merely a threat, and represents a desire to shape the international security environment.

The focus must be on preparing for war so as not to fight it, at least not in the conventional sense. Doing so requires reformulating both military training and education. What happens on our playing fields—in seminars at Carlisle, Leavenworth, Newport, Montgomery, Quantico, Norfolk, and Washington—will be as important as exercises, campaign plans, deployments, and in some cases actual employment of military forces. The consequences of misunderstanding the essence of war and the necessity to prepare for it are huge.

If we succeed in the mental and moral preparation of the battlefield, most contests will not be necessary. We will have achieved

U.S. Army (Dennis Kurpius)

9th Infantry Division in the Mekong Delta.

the acme of skill, subduing an enemy without fighting him. More importantly, he was defeated in peacetime by a strategy so sophisticated and compelling that he decided that it was not in his self-interest to challenge either the Nation or our allies by force of arms. That we caused this to happen should seem preposterous to our adversary. But it can be so if we learn to fight war in terms of our adversary's decision framework.

Weapons rarely lose their lethality. People will remain passionate in their convictions to the point of violence. States will continue to attempt to shape the international environment by force of arms. Massive hemorrhages of violent blood-letting, senseless to some and inevitable to others, will no doubt occur. We cannot prevent many of these, nor should we. But we should learn to be more capable and effective in deterring if we are able, fighting if we must, and winning if we can. Better understanding of the evolution of war and its paradoxes can lead to a new paradigm.

To deceive enemies and not ourselves may or may not always be possible, but we must try. Not doing so is an admission of incompetence or acceptance of failure. Neither is a hallmark of our Armed Forces. To ensure that they never occur, as the Chief of Staff of the Air Force argues,[16] requires changing our attitude and emphasis on thinking and imagination. Such a strategy must be based on a prerequisite of mental mobilization and an acceptance of the ancient injunction of Sun Tzu as a new paradigm for the American

military: Subdue the enemy without fighting him. It may literally be the only way we can afford to compete in the future.   **JFQ**

NOTES

[1] Sun Tzu, *The Art of War,* translated by Samuel B. Griffith (New York: Oxford University Press, 1971), p. 77.

[2] William James, *Memories and Studies* (New York: Longmans, 1911), pp. 273–74.

[3] For a more complete assessment of an arms race strategy of intimidation, see Grant T. Hammond, *Plowshares Into Swords: Arms Races in International Politics, 1840–1991* (Columbia: University of South Carolina Press, 1993).

[4] John R. Boyd, "A Discourse on Winning and Losing," unpublished briefing; though not published, Boyd's work has been cited in nearly fifty sources.

[5] *Bartlett's Familiar Quotations*, 16th edition (Boston: Little, Brown, 1992), p. 541.

[6] John R. Boyd, "Destruction and Creation," unpublished monograph.

[7] Richard M. Weaver, *Ideas Have Consequences* (Chicago: University of Chicago Press, 1948).

[8] See Robert Jervis, *Perception and Misperception in International Politics* (Princeton, N.J.: Princeton University Press, 1976).

[9] Geoffrey Blainey, *The Causes of War* (New York: The Free Press, 1973), p. 141.

[10] Attributed to Stalin by Churchill; *Bartlett's Familiar Quotations*, 16th edition (Boston: Little, Brown, 1992), p. 638.

[11] Raymond J. Sontag, *European Diplomatic History, 1871–1932* (New York: Century, 1933), p. 146.

[12] Bernard Brodie, editor, *The Absolute Weapon: Atomic Power and World Order* (New York: Harcourt Brace, 1946), p. 76.

[13] Boyd's "OODA (observation, orientation, decision, action) loop" describes interaction with the environment and sensory data. The faster the cycle time in decisionmaking, the more complex the processes.

[14] Alvin and Heidi Toffler, *War and Anti-War: Survival at the Dawn of the 21st Century* (Boston: Little, Brown, 1993), see especially chapter 9.

[15] John Arguilla and David Ronfeldt, "Cyberwar Is Coming!" *Comparative Strategy,* vol. 2 (April–June 1993), pp. 141–65.

[16] General Merrill McPeak stated, "This is the key point: the effective employment of air and space power has to do not so much with airplanes and missiles and engineering as with thinking and attitude and imagination." See "Flexibility and Airpower" in *Air Force Update* (June 1993), p. 6.