# US Military Doctrine and the Revolution in Military Affairs

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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.

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.[2]

Nevertheless, "revolution" has been the key word in the wake of the Gulf War as a host of officials and analysts have attempted to explain the victorious outcome of that conflict. The war, former 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.'"[3] 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 revolution 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.[4]

In 1993, the CSIS devoted an entire report to the revolution, "a *fundamental advance in technology, doctrine or organization that renders existing methods of conducting warfare obsolete.*"[5]

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.[6]

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.[7]

It is this combination of change and continuity that holds the key for the US military as it deals with the current revolution in military affairs. The major force for change in that revolution is technology. The major reason why the US military, and particularly the US Army, is prepared to deal with this force is the mix of continuity and change in the current doctrinal framework that will carry it well and effectively into the vortex of the RMA.

**Doctrinal Change and Continuity**

Clausewitz defined strategy as the use of engagements to achieve policy objectives--a definition that can be depicted as a vertical continuum of war (Figure 1). The Prussian philosopher's observations were based on Napoleon's revolutionary use of time and space which, nonetheless, still focused on the intra-battle maneuver of classical strategy. In the American Civil War, however, the dimensions of these two variables were stretched and rendered more complex by the interaction of technology with the elements of what Clausewitz had referred to as the "remarkable trinity": the military, the government, and the people.

That interaction, as Grant illustrated in his use of operationally durable armies scattered throughout the eastern United States in 1864-65, 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 in which 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."[8] 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."[9] The larger lesson of the century, however, was captured by Paul Kennedy:

> 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.[10]

These doctrinal lessons were lost in subsequent years; and World War I would reveal the inadequacies of classical strategy to deal with the intricacies of modern warfare. It was that complexity, augmented by the lack of decisiveness at the tactical level, that after 1914 impeded the vertical continuum of war outlined in Clausewitz's definition of strategy. 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 integrate individual tactical engagements and battles in order to achieve strategic results (Figure 2). 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.[11]
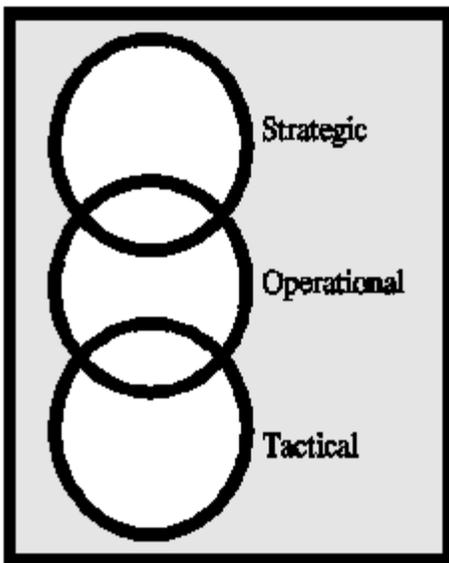
Figure 2.

*The Return to Basics*

In the wake of Vietnam, the US 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.[12]

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."[13]

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 was dependent 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."[14] 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."[15]

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.[16]

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 success or failure.[17]

The new Army 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."[18] Operations other than war, or OOTW, can involve combat missions ranging from strikes and raids to peace enforcement as well as non-combat 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 non-combat operations in wartime or actual combat in OOTW. The flexibility involved goes far beyond agility, which emphasizes faster physical and mental reaction than the enemy. That tenet, the manual concludes, applies to a boxer; versatility describes the decathlete. The US Army, like the decathlete, is capable of rapid realignment and refocus on widely divergent missions because of discipline and training.[19]

In all this, the vertical continuum of war remains as the doctrinal construct. 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."[20] 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."[21]

*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."[22] The CSIS report on the revolution in military affairs agrees that the revolution "clearly holds the potential to blur or permanently erase the distinction between tactical, theater, and strategic war."[23] 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.[24]



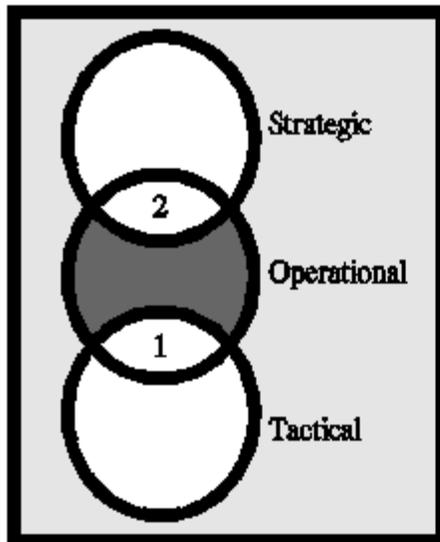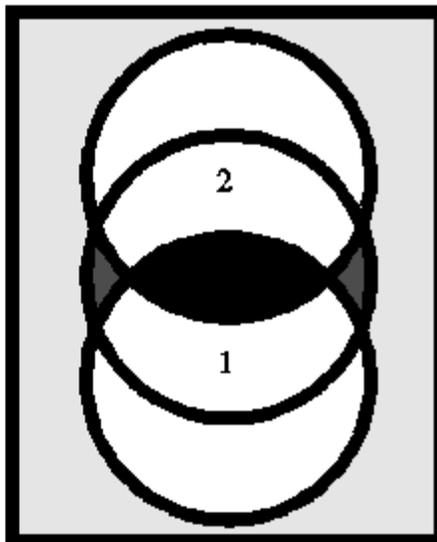Figure 3.                                                                                                          Figure 4.

Figure 3 is the familiar depiction of the vertical continuum of war, with the darkened center area representing the operational art required to ensure that the tactical events in area 1 form the military conditions at the operational level that will achieve strategic objectives in area 2. Figure 4 depicts the more balanced approach to the future reflected in the JCS description. The expansion and overlap represent 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 integration and simultaneity. Finally, the darkened section is the traditional area of operational art focused on conducting 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 a much more complex job: recognizing those simultaneous strategic and tactical events that directly influence strategy, and integrating them at the operational level into the full synchronization calculation that traditionally determined what tactical battles and engagements to join or forego.

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. The technology that has streamlined and compressed the vertical continuum also has added a horizontal dimension (Figure 5) that provides the potential for the military 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 Gallipoli, the decision of LBJ not to run for reelection as a result of Tet, or the effects of the tactical loss of US Army Rangers in Somalia on the tenure of former Secretary of Defense Aspin.
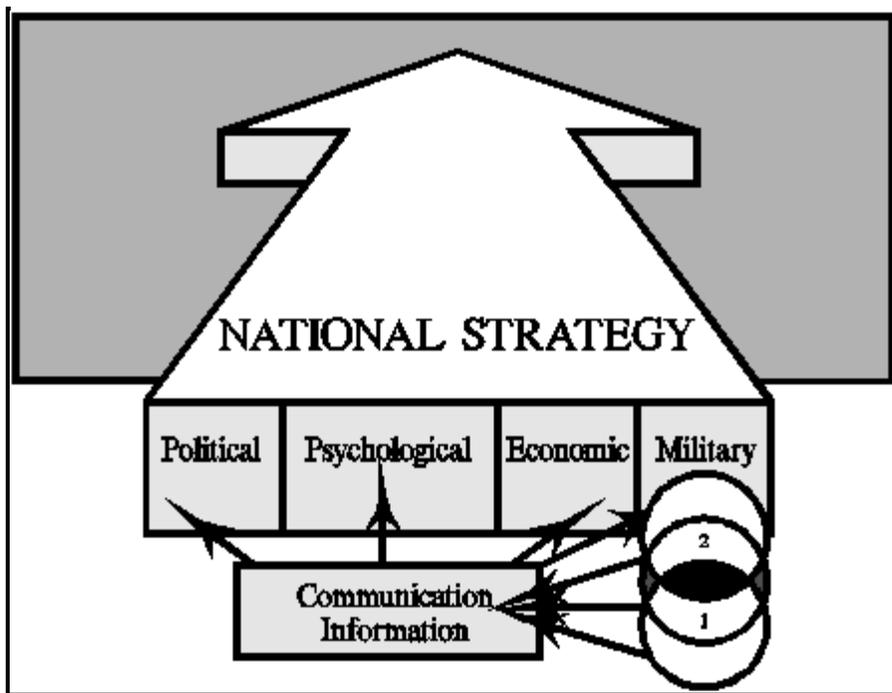
Figure 5.

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 help to empty 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 effect 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.[25] Previously, air theorists tended to limit land attack to the area of actual combat between committed forces, with anything beyond the range of organic Army weapons belonging to the air commander. Now that tactical commanders may 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.

There is, of course, 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."[26] But that certainty is not necessarily enhanced by the quantum leap in technology which may now inflict Clausewitz's "fog of war" on the compressed continuum. 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 soldiers in the future may find themselves all the more at a loss when reality differs sharply from a familiar cyberworld.[27]

Such communication trends in the vertical continuum also have implications for the national military strategy of US-based force projection. If, for example, US forces in the future require theater ballistic missile support in Southwest Asia, why send such missiles when ICBMs with conventional warheads that will soon approach accuracies of near zero circular error probable 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 the United States with real-time linkages to theater forces.[28] 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.[29]

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 influence 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 among 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.[30] 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 Eliot 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 mélange of officers."[31]

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 5) exerted through the public. Direct political involvement in military affairs at all levels of war, of course, is not new. Clausewitz even advocated such involvement, pointing out that political leaders in the cabinet must become more knowledgeable concerning technical military affairs. And both Winston Churchill and Adolf Hitler regularly descended to the operational and tactical levels in World War II. 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.[32]

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.[33] Many studies agree, foreseeing that combat units will become, if anything, more autonomous and self-sustaining, and that in the Third Wave military, like the Third Wave corporation, "decisional authority is being pushed to the lowest level possible."[34] If so, the picture of the small unit leader operating independently under a commander's intent in the nirvana of pure *Auftragstaktik* still will not be easy to create. Other images intrude: General Guderian ceasing to transmit by radio during the 1940 invasion of France in order 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."[35]

**Warfighting vs. OOTW**

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 communications. Thus, a former high-level UN official could point out that in peacekeeping and peace enforcement operations, "you require political direction every time you move a sentry post."[36] It is this strategic dominance that 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."[37]

The US 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 21 million war-related deaths occurring 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 to that developing world, substantial parts of which are likely to be chaotic 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 the OOTW category by current US military doctrine.[38]

Peace operations in that doctrine encompass three types of activities: diplomacy, peacekeeping, and peace enforcement.[39] Classical peacekeeping was a Cold War expedient that overcame some of the disabling aspects of the bipolar rivalry by relying on a token UN presence and the consent of opposing parties rather than on military effectiveness. This traditional capability was firmly grounded in Chapter VI of the UN Charter, which focused on pacific settlements of disputes. Where such settlements failed, the enforcement mechanisms under Chapter VII were designed to marshal 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; 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 US 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 is dependent "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."[40]

Since the end of the Cold War, a "second generation" of UN 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 Nations' 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 UN 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 UN operations.[41]

For the US military, the goal is to modify and create technologies and force structures within the overarching doctrinal framework that add 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," the TRADOC commander 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."[42]

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 US 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."[43] 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."[44]

In such operations, 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 non-lethal 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."[45]

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 and Observers (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.[46] 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."[47]

In all this, US 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 precede 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 US military and in fact most militaries have faced in their histories. "We have to make war as we must," Lord Kitchener once commented, "and not as we should like to."[48]

## The Way Ahead

When thinking in time, 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 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 little 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."[49] There is thus 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 Revolution in Military Affairs.

In this revolution, the US 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-down 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 US military in the wake of the Vietnam conflict were no less momentous.

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."[50] 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."[51] 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."[52] 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.[53] 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 revolution in military affairs 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 cliché 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 US armed forces developed new concepts of operation that were to prove successful against future 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 US 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.[54]

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 First Wave response. Moreover, these Second or even Third Wave responses are normally applied as part of the larger employment of all elements of power, defined in terms of the trinitarian national state.

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.

In the end, this horizontal aspect combines with the flexibility of the vertical doctrinal framework to complement, reinforce, and balance the political-military relationship at the highest level of the US government with the demands of American societal values. It is this relationship 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 deficits in balance and the vertical continuum can be was illustrated by the Nazi Wehrmacht, which perceived that without swift decisive victory, other non-military 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 . . . [about] what higher purpose all these battles were supposed to serve."[55]

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## NOTES

1. William E. Odom, *America's Military Revolution: Strategy and Structure After the Cold War* (Washington: American Univ. 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*, 73 (December 1993), 6.

2. Robert L. Heilbroner, *The Future as History* (New York: Harper & Row, 1960), pp. 193-97.

3. Department of Defense, *Conduct of the Persian Gulf War*, Final Report to Congress (Washington: GPO, April 1992), p. 164.

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

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

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

7. Ibid., pp. 83-84.

8. Original emphasis. FM 100-5, *Operations* (Washington: GPO, 5 May 1986), p. 2-11.

9. Bruce Catton, *This Hallowed Ground* (Garden City, N.Y.: Doubleday, 1956), p. 362.

10. 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. 181-82.

11. JCS Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington: GPO, 1 December 1989), p. 264.

12. FM 100-5, *Operations* (Washington: GPO, 14 June 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, Kans.: Combat Studies Institute, 1988).

13. Richard Hart Sinnreich, "Strategic Implications of Doctrinal Change: A Case Analysis," in *Military Strategy in Transition: Defense and Deterrence in the 1980s*, ed. 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,* 55 (October 1991), 462-63.

14. FM 100-5, *Operations* (Washington: GPO, 20 August 1982), p. 2-1.

15. Sinnreich, p. 49.

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

17. Emphasis added. Joint Pub. 3.0, *Doctrine for Joint Operations* (Washington: GPO, September 1993), p. II-3.

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

19. 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 mission-essential task list, 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*, 73 (December 1993), 14.

20. 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.

21. 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."

22. Douglas A. MacGregor, "Future Battle: The Merging Levels of War," *Parameters*, 22 (Winter 1992-93), 42. See also ibid., pp. 38-40.

23. Mazarr, p. 27. See also ibid., pp. 19, 26.

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

25. L. D. Holder, "Offensive Tactical Operations," *Military Review*, 73 (December 1993), 52.

26. Martin van Creveld, *Command in War,* (Cambridge, Mass.: Harvard Univ. Press, 1985), p. 264.

27. Eliot Cohen, "The Mystique of Air Power," *Foreign Affairs*, 73 (January-February 1994), 115.

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

29. Cohen, pp. 117-18.

30. John Keegan, *A History of Warfare* (New York: Alfred A. Knopf, 1993), p. 286.

31. Cohen, p. 118.

32. Gordon A. Craig, "The Political Leader as a Strategist," in *Makers of Modern Strategy, from Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, N.J.: Princeton Univ. Press, 1986), pp. 481-509.

33. Gordon R. Sullivan and James M. Dubik, *Land Warfare in the 21st Century* (Carlisle, Pa.: Strategic Studies Institute, 1993), p. 19. See also Cohen, p. 115.

34. Toffler, p. 78. See also Alvin H. Bernstein, Director, *Project 2025* (Washington: Institute for National Strategic Studies, 6 November 1991), p. 75.

35. Odom, p. 48. See also van Creveld, pp. 255-56.

36. Major General Indar Jit Rikhye lecture to the USAWC Advanced Course on Collective Security and Peacekeeping, 4 February 1994.

37. James McDonough, "The Operational Art: Quo Vadis?" in *Maneuver Warfare: An Anthology*, ed. Richard D. Hooker, Jr. (Novato, Calif.: Presidio Press, 1994), p. 106.

38. 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*, ed. Charles W. Kegley, Jr. (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*, 10

(Spring 1986), 186.

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

40. John MacKinlay and Jarat Chopra, "Second Generation Multinational Operations," *The Washington Quarterly*, 15 (Summer 1992), pp. 114-15. See also FM 100-23, 1993, p. 1-2. For the original criteria, see Brian Urquhart, "Beyond the Sheriffs Posse," *Survival*, 32 (May-June 1990), 198.

41. 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." Draft FM 100-23, p. 1-3.

42. Franks, p. 10.

43. S. L. Arnold, "Somalia: An Operation Other Than War," *Military Review*, 73 (December 1993), 31-32.

44. Ibid., p. 35.

45. 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*, 13 (Spring 1990), 84.

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

47. Mazarr, p. 9.

48. Michael Glover, *The Velvet Glove: The Decline and Fall of Moderation in War* (London: Hodder and Stoughton, 1982), p. 43.

49. Richard Neustadt and Ernest May, *Thinking in Time: The Uses of History for Decision-Makers* (New York: The Free Press, 1986), pp. 255-56.

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

51. Gordon R. Sullivan, "From the Editor," Introduction to *Military Review*, 73 (December 1993), 1. "History, after all, has proved that learning organizations are winning organizations." Ibid.

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

53. James J. Schneider, "Vulcan's Anvil: The American Civil War and the Emergence of Operational Art," *Theoretical Paper No. 4* (Fort Leavenworth, Kans.: SAMS, 16 June 1991), p. 22.

54. Paul Bracken, "The Military After Next," *The Washington Quarterly*, 16 (Autumn 1993), 172.

55. Erich von Manstein, *Lost Victories* (Novato, Calif.: Presidio Press, 1982), p. 202. See also A. J. Bacevich, "New Rules: Modern War and Military Professionalism," *Parameters*, 20 (December 1990), 16-17; Michael Geyer, "German Strategy in the Age of Machine Warfare, 1914-1945," *Makers of Modern Strategy,* pp. 528-81, 585; Dennis E. Showalter, "A Dubious Heritage: The Military Legacy of the Russo-German War," *Air University Review,* 36 (March-

April 1985), 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, N.Y.: Cornell Univ. 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.

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