NATIONAL SECURITY CHALLENGES FOR THE 21st CENTURY



Williamson Murray
Editor

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Williamson Murray
Editor

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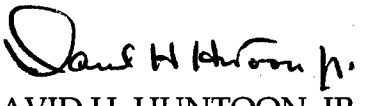
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FOREWORD

September 11, 2001 changed many things in the United States not the least of which was our national defense policy and military strategy. The challenges facing the defense establishment in the United States at the beginning of the 21st century are daunting indeed; however, the thoughtful essays included in this volume by students at the U.S. Army War College provide insights into those trials that will prove useful to policymakers both in and out of uniform.

Officers who participated in the Advanced Strategic Art Program (ASAP) during their year at the U.S. Army War College wrote these chapters. The ASAP is a unique program that offers selected students a rigorous course of instruction in theater strategy. Solidly based in theory, doctrine, and history, the program provides those students a rich professional experience that includes staff rides, exercises, and the best instructional expertise available. The program is designed to provide the Joint team with the military's best theater strategists. Our ASAP graduates have already begun to make a difference. They and their fellow graduates of the U.S. Army War College will continue to serve the Army and the nation for many years to come.



DAVID H. HUNTOON, JR.
Major General, U.S. Army
Commandant
U.S. Army War College

CHAPTER 1

TRANSFORMATION AND PROFESSIONAL MILITARY EDUCATION: PAST AS PROLOGUE TO THE FUTURE

Dr. Williamson Murray

This book represents the third in a series that began in the Army War College's academic year 2000-01. As in the past, it contains the papers of the students of the Advanced Strategic Arts Program, a special program within the war college dedicated to the study of the strategic and joint environment within which America's military will fight in the 21st century.[1] This year's essays, however, cover a wider variety of subjects than has been the case in the past. The students of the 2002-03 academic year were not asked to address the single theme of army transformation, but rather were allowed to address a wide range of issues and problems confronting the United States in a fractious and difficult world.[2]

Those essays range in subject matter from basing in Europe, to several addressing the critical issues in Homeland Security. All of them raise critical issues with regards to national security and the nature of war itself. One of the essays won a prize at this year's graduation ceremonies. That honor suggested a great deal about the quality of the students in the Advanced Strategic Art Program (ASAP) as well as the importance of intellectual excellence in the curricula of America's war colleges. The very breadth of the essays, covering topics from the implications of a nonlinear world on the conduct of military operations to close examinations of the strategic framework of U.S. strategic policy in Europe and Asia, underline the character and intellectual breadth of the best students at the Army War College.

Now more than ever, it would appear that America needs officers who possess a deep understanding of the difficulties involved in the use of force in the international arena as well as understand the complex problems involved in the political and strategic challenges confronted by the United States in the post-Cold

War World. Over the past decade, a number of major study groups in Washington—to include the Defense Science Board, the National Defense Panel, and the Hart Rudman Commission—have all argued that the United States needs officers, more widely educated not only in the profession of war, but in understanding foreign cultures, languages, international affairs, and military history.

Moreover, a number of senior civilian officials in the Department of Defense (DoD) as well as in the Congress have become interested in the subject of professional military education. It would appear then, that an examination of the period when professional military education rendered signal services to the armed forces of the United States in their preparation for war would be useful in thinking about how serious education could contribute to the preparation of officers for an uncertain and ambiguous future. That is the subject of this opening chapter.

PAST CONTRIBUTIONS

Professional military education in the United States appeared in the late 19th century for a number of reasons, quite different from those lying behind its appearance on the European Continent.[3] For American military reformers of the late 19th century, education represented a tangible sign that their profession fit within the larger context of the systemization through education of other professions in the United States. That process included the professions of medicine, law, and even business. If officership in either the Navy or the Army were a profession, then the services needed some form of serious professional education. The fact that even the British had seen fit to establish a staff college in the 1850s to educate their officers also suggested to American reformers the need for serious professional military education.[4] However, it was not until the 1920s that professional military education came into its own in the United States as a major factor in preparations for war. And because the contribution of professional military education was so significant, it is well worth examining the attitude of the services in the interwar period towards professional military education as well as the nature of that contribution.

THE MARITIME SERVICES AND PROFESSIONAL MILITARY EDUCATION IN THE INTERWAR PERIOD

The Development of the Carrier.

Almost from the period immediately after the end of World War II, historians have understood the importance of professional military education in the development of the Wehrmacht's battlefield capabilities.[5] What, however, has only become clear in the 1990s, as the result of recent research by scholars, was the extraordinary role that professional military education played in the processes of transformation and innovation that took place within the American armed forces during this period. The most interesting and important case was that of the Naval War College—an institution that provided the intellectual engine for the Navy's transformation efforts and innovation from the early 1920s through to the start of World War II. In the interwar Navy, not only attendance, but teaching on the faculty, was considered career enhancing for officers. Virtually every admiral of note in World War II was a graduate of the college, while the future admiral Raymond Spruance served not one, but two, tours on the faculty.[6]

The impact of this emphasis on professional military education showed directly in the Navy's efforts to transform its combat capabilities. If it had had little opportunity to test its battle fleet in combat during World War I—only one squadron of U.S. battleships made it to Scapa Flow well after the Battle of Jutland—the Navy had at least had the chance to observe what the British were doing. Moreover, the admiral in charge of U.S. naval efforts in European waters, William S. Sims, was one of the most intelligent and innovative officers ever to wear the Navy's uniform. Interestingly in terms of his priorities, Sims chose to return from Europe to the presidency of the Naval War College rather than to a fleet command.[7] There at Newport, he set about adapting the war games at the college to educate naval officers not only in current capabilities, but in those that the future might hold. The games provided surrogate decisionmaking experience in naval warfare and examined the operational and strategic possibilities open to the Navy with the

advent of significant new technologies. Thus, Newport probed the framework of emerging concepts and technological change. In particular, the games tested the possibilities that aircraft carriers might offer to revolutionizing the conduct of maritime operations.[8] Serious honest red teaming lay at the heart of the approach to the wargaming and testing of these new capabilities.[9] There was virtually no effort to validate preconceived notions; rather the emphasis was on the testing of ideas and concepts until they failed. The resulting culture of intellectual honesty was to carry over into the Navy's fleet exercises throughout the interwar period.

The most important operational insight in these wargames was that the dynamics of offensive carrier operations would differ fundamentally from those involved in battleship engagements. When battle lines of dreadnoughts engaged, the fires from the two sides involved more or less steady streams of shells. Each side could redirect its "streams" of fire on the enemy's surviving ships as the engagement progressed. However, the wargaming of the air power assets that carriers would bring to the fight suggest a very different picture. The execution of potential carrier operations suggested that air strikes should come in discrete pulses of combat power rather than in continuous streams. Thus, the effectiveness of such strikes on the enemy would be a function of the number of aircraft that the attacking carrier or carriers could launch in a given pulse.[10]

Crucial to this insight was the fact that those running the war games at Newport were open to new ideas and approaches:

> As [Captain Harris] Lanning [the director of the Tactics Department at Newport] noted in his memoirs, "a group of the cleverest tacticians among the students came to see me and said that . . . they believed there were better methods and intended to find them." Instead of being offended Lanning backed them. As he recalled, "In investigating aircraft [in the war games] we gave the officers commanding miniature fleets a rather free hand in the use of aircraft . . . the only restriction being that planes had to operate in accordance with the capabilities and limitations as established by aviators familiar with planes."[11]

A game at the end of 1923 suggests the willingness of those designing the fleet games at Newport to experiment with the possibilities that could come with significant changes to the

composition of the fleet. In this exercise the Blue (American) fleet possessed five carriers; the Red fleet, four. While much of the game emphasized the maneuvers of the battle fleets, the Blue fleet launched 200 aircraft at Red and damaged all of Red's carriers and one of its battleships. Besides pointing to the need for concentrated strikes against the enemy fleet, the game suggested the need for a coherent air defense plan and the importance of gaining control of the air—thus the conclusion that the enemy's carriers must be the first target of carrier strikes.[12]

The insight that the number of aircraft launched by a carrier would be the critical factor in naval combat in the future had far reaching implications for the development of naval aviation. It suggested that in fleet engagements, striking first with one's aircraft would confer considerable advantages. It also indicated that, range, payload, and sustainability of aircraft would be essential enablers in the future naval equation.[13] Newport's relatively simple wargaming also suggested that the more aircraft a carrier could take to sea, the better, and that reduction of aircraft launch, recovery, and on-board handling times would have a significant impact on the carrier's effectiveness. And all of these insights were gained *before the U.S. Navy possessed a single operational aircraft carrier* in the fleet.

What was particularly impressive about the Navy's transformation efforts was the direct connection between concept development at the Naval War College and the exercises and experiments that its fleet units carried out throughout the interwar period. In turn, the lessons learned from the exercises more often than not were fed back directly to the school, where real world experience could refine doctrine and concepts. The insight that air power on the carriers should come in pulses had an almost immediate effect on experimentation in the fleet.

In 1925, the future admiral Joseph M. Reeves went to sea in command of the Navy's first carrier, the USS *Langley*. Significantly Reeves had attended the senior officers' course at Newport in 1923 and after graduation had become the head of the tactics department, where he supervised the 1924-25 games.[14] Reeves immediately set about shortening take off and landing times for ever larger numbers of aircraft. In the period of a year, Reeves, his officers, and the crew

of the *Langley* figured out how to use arresting cables to maximum effect, had invented crash barriers, developed the concept of a deck park, and developed procedures and equipment to refuel and rearm aircraft at much faster speeds. The result was, that while the *Langley* had only taken to sea 14 aircraft when Reeves assumed command, it was handling 48 aircraft a year later in simulated combat conditions.[15] By the early 1930s, the *Lexington* and *Saratoga,* newly arrived in the fleet, were handling nearly 100 combat aircraft each in exercises. It is doubtful whether the United States military has ever seen a more impressive use of low-cost resources than the inexpensive games that Sims had created at Newport to examine the possibilities open to the use of new technologies like air power.

Strategic and Other Insights.

The war gaming and examination of new concepts at Newport involved more than just the insights that involved the potential use of carriers and aircraft. They created a mind set that prepared the Navy and eventually the Marine Corps to deal with a number of significant problems that a future war in the Pacific would raise. The future fleet admiral and commander of the great drive across the Cental Pacific from 1943 through to the end of the war, Admiral Chester Nimitz, noted the following in his 1923 thesis at the Naval War College about the operational and strategic framework of a future war in the Pacific:

> [T]he operations imposed [in a future Pacific war] on Blue [the United States] will require the Blue Fleet to advance westward with an enormous train, in order to be able to seize and establish bases en route. . . . The possession by Orange [Imperial Japan] of numerous bases in the Western Pacific will give her fleet a maximum of mobility while the lack of such bases imposes on Blue the necessity of refueling at sea en route or of seizing a base from Orange for this purpose, in order to maintain even a limited degree of mobility.[16]

Thus, the games and strategic analysis at Newport led to the conclusion that the fleet would have to capture a number of islands in the Central Pacific to support a drive on the Japanese Home Islands. And that task would require amphibious capabilities.

Here the Marines, and their emergence as a significant military force, became a significant part of the interwar story of professional military education.

Almost immediately after the demobilization following World War I, the Marines had begun focusing on the possibilities offered by amphibious warfare—partly to survive as an independent military organization. The Commandant of the Marine Corps in the early 1920s, General John Lejeune, who proudly wore the combat patch of the Army's 2nd Infantry Division on his right shoulder, charted the way ahead. The foremost historian of the Corps has noted the following about Lejeune's attitude toward professional military education and its importance in preparing the Corps for the future:

> The Commandant intended that Marine officers study their profession, and he also intended that school completion be regarded as part of an officer's fitness for key assignments. It might also serve as a moral equivalent of promotion and the key to rapid advancement if the Corps went to war again.[17,18]

Thus, the Marine Corps Schools at Quantico became the one place in the world where the implications of the British assault on the Gallipoli Peninsula were studied, not only for their failures, but for what might have gone differently, had the British possessed a more aggressive and better trained force.[19] Between the mid-1920s and the mid-1930s, the Schools at Quantico saw an increase in the proportion of the curriculum devoted to the study of amphibious operations from 25 percent to 60 percent.[20] Thus, Gallipoli became one of the major foci with an increasing emphasis on the tactical and operational movements once the amphibious force had achieved a beachhead. Significantly, the Marines placed a number of their finest officers and future leaders on the faculty at Quantico. Among others, the faculty included in 1938 Lemuel C. Shepherd, Jr., O. P. Smith, Merill B. Twining, David M. Shoup, and Gerald Thomas.[21]

Again as with the development of carrier aviation, experiments, exercises, and their connection with Newport and Quantico had a considerable impact on the development of the amphibious warfare capabilities, though these developments came more slowly than did those for carrier warfare. Part of the explanation, undoubtedly, lay in the fact that the Marine Corps spent much of the 1920s policing the

Caribbean for the United Fruit Company. But with the withdrawal of Marine units from that role in the early 1930s and their redesignation as the "Fleet Marine Force," the maritime services began an active program of designing the fleet exercises—FLEXs in the acronym of the time—to experiment with the possibilities of amphibious landings. By 1934 the Marines had developed a manual for such operations, entitled the "Tentative Manual for Landing Operations," while increasing tensions in the Pacific made it increasingly likely that there would be a great conflict between the United States and Imperial Japan in the not too distant future.

The result of these efforts was that the Marine Corps and the Navy explored most of the difficulties that they would confront in launching amphibious operations, and if they did not have answers to many of these problems, at least they knew what they had to solve. By the outbreak of the war, the FLEXs had laid out the principles of the amphibious doctrine which would play such an important part in the winning of World War II.

> In the course of the FLEXs the Navy and Marine Corps experimented with about every imaginable amphibious technique and tactical approach allowed for by their equipment. They tried day and night landings, smoke screens, varieties of air and naval gunfire support, concentrated assaults and dispersed infiltration, the firing of all sorts of weapons from landing craft, and an array of demonstrations, feints, subsidiary landings, and broad front attacks.[22]

All the while, debates went on throughout the maritime services, fueled by the experiences gained in the FLEXs. By 1940 the parallel development of doctrine in the schools and experimentation in the fleet where well on their way to creating serious amphibious capabilities. Those capabilities would eventually play a crucial role in Allied victory in World War II in both the Atlantic and the Pacific.

The Army.

Like the maritime services, the Army placed considerable emphasis on the education of its officers, although there was a less coherent focus on transformation, innovation, and the development

of new capabilities. On paper the school system for officers was even more impressive than that possessed by the Navy. For example, the staff college at Leavenworth was a 2-year course for a considerable period of time during the interwar period. Nevertheless, the length of the staff college's curriculum had more to do with the fact that promotion through the army's grades proceeded at a glacial pace, while there were not enough positions for the officers the army had. For much of the interwar period the Army War College displayed little intellectual vigor. Yet, one should note that academic performance at Army schools was considered important enough in an officer's evaluation, for Dwight Eisenhower to expend great effort to graduate first in his class at Leavenworth.[23]

The real intellectual engine of the Army's efforts at transformation in this period came at Fort Benning's Infantry School during the 5-year period that George Marshall served as the assistant commandant. One hundred and fifty of the Army's future generals in World War II attended the school during this period, while an astonishing 50 future generals worked for Marshall on the faculty.[24] An observer noted the following about the atmosphere of the school under Marshall's leadership and encouragement:

> An infantry lieutenant colonel . . . in 1930 . . . was struck by the opportunity given officers to disagree at times on questions of military education, regardless of rank, and an attitude of tolerance of ideas which encourages free and open discussion. [The faculty was] thinking seriously about matters, old and new, that may find application in our Army of the future. They are not afraid to look outside the field of what is generally considered military education for ideas to help in solving the problems of national defense.[25]

One can find Marshall's own summation of his belief in the importance of history and education to the military profession in the forward he wrote to the classic book on infantry tactics, *Infantry in Battle*:

> By the use of numerous historic examples which tell of the absence of information, the lack of time, and the confusion of battle, the reader is acquainted with the realities of war and the extremely difficult conditions under which tactical problems must be settled in the face of the enemy.[26]

Marshall's support for institutions like the Army War College in his first year as the Army Chief of Staff—at a time when the United States, and the Army in particular, were confronting the massive problems occasioned by rearmament in the face of the looming Japanese and German threats—suggests a great deal about how he felt about professional military education. Out of the seven senior officers teaching at that institution over the 1939-40 academic year, Colonel W. H. Simpson would go on to command the Ninth Army in the European Theater of Operations, while Major J. Lawton Collins would become one of the Army's most distinguished corps commanders in World War II and eventually, after the war, the Army's Chief of Staff. The following year would see Alexander Patch, soon to be a three-star general in the coming war, teaching on the faculty.

In some respects the Army Air Corps may have done even better than the Army as whole in its respect for professional military education. To a great extent, this may have been driven by a desire to achieve an independent air force that would be free of its ties to the Army. Its main school, the Air Corps Tactical School, located for much of the 1920s at Langley Field, moved to Maxwell Field in Alabama in the early 1930s. That professional school for airmen was the essential driver in the creation of the doctrinal concepts of high-altitude, precision attacks against the enemy's industrial web—to all intents and purposes the precursor to today's conceptions of effects-based operations.[27] And like its parent, the Army Air Corps was willing to put a number of its best officers on the faculty of that institution. Among other future Army Air Forces (and Air Force) generals, George Kenney, Haywood S. Hansell, Jr., Claire Chennault, Harold George, Kenneth Walker, and Hoyt Vandenberg, all served tours on the faculty.

LESSONS FOR THE FUTURE

The Present Landscape.

There are a number of things that the services are doing right in professional military education at present, but the overall attitude at best appears to be that education is a luxury for the American

military rather than a necessity.[28] What is going right emerged mostly in 1970s and 1980s when senior officers, most of whom had been badly burned by their experiences in Vietnam, turned to professional military education as a means of addressing what they saw as the glaring deficiencies in how the American military—and system—had performed in the war in Southeast Asia.[29] The revolution at the Naval War College, driven by the Chief of Naval Operations, created a truly graduate level approach to educating officers in strategy. That was followed in the early 1980s by the creation of the School of Advanced Military Studies (SAMS), an intensive second-year program at the Army's Command and Staff College.[30] SAMS was in turn followed by similar programs at the Air Command and Staff College and by the Marine Corps Staff College. All of these second-year programs have maintained their vibrancy.[31] Finally, in the late 1990s, the Commandant of the Army War College created the Advanced Strategic Arts Program. All of these programs involve intensive education at a graduate level for their students. They should serve as a model for the other institutions of professional military education. Unfortunately, they do not.

Two substantial problems lie at the heart of the difficulties that marginalize the staff colleges, war colleges, and professional military education in general: The first major problem is that the Services have failed since World War II to enunciate a clear vision of why they believe professional military education to be important. Without a vision or a philosophy, it is relatively easy to follow almost any path. As that old country saying runs, "If you don't know where you are going, then almost any path will do." The second has to do with personnel systems that to all intents and purposes still rest on laws drawn up in the late 1940s and early 1950s.

The failure to enunciate clear goals for professional military education has had a number of deleterious effects. To begin with, it has helped to enshrine the "Pecos River" approach—a mile wide and an inch deep. Pedagogically, a year is a very short period of time for a student to grasp a serious subject in any sort of depth. Thus, without a clear educational sense as to what officers absolutely have to know, it becomes all too easy to justify a wide range of subjects, all of which it would be nice to have officers know something about, but which in fact are not essential to the military profession.[32] The

result is that important subjects often get short shrift: Thucydides or Clausewitz in an hour's seminar with 20 pages of reading to back up seminar discussion.

In fact, the lack of clear goals often reflects a benign neglect for professional military education on the part of the senior leadership. If professional military education doesn't matter, then any generic colonel can serve on the faculty.[33] And a faculty that does not have a reasonable claim to intellectual expertise is not likely to have much self-respect, much less the respect of the student body. The combination of a lack of interest in professional military education at the top with faculty who have no clear intellectual focus can be deadly. It often leads to a student attitude that their purpose at the war college is to work on their athletic skills; students have often jokingly commented that "they are at the war college on an athletic scholarship." Such attitudes are only reinforced when senior generals comment on the speakers platform that they had had a great time playing soft ball and golf at the war college and wish the students a restful year.

There are, however, a considerable number of students attending such institutions who are deadly serious about their profession. As one Marine Corps Lieutenant General commented to this author in the late 1990s: "Since you studied law when you went to law school, and medicine when you went to medical school, I believed that I would study war when I went to the war college. Boy was I wrong!"[34] It is this group of officers, who deserve the very best in serious professional military education, because they are the ones who will provide the intellectual leadership for the American military in the 21st century. Without a challenging educational experience at staff college or war college, some of the brighter students can become suspicious of what serious academic pursuits can contribute to widening their horizons as well as those of their fellow officers. Others find their own way to some coherent intellectual vision of the world, but the road is more often than not tortuous and difficult—a road populated by as many wrong turns and dead ends as highways to learning.

The second problem that blocks the development of a more coherent and wider-ranging program of professional military

education has to do with the nature of the personnel systems and, as suggested above, those are driven by laws that were designed in the industrial age for industrial age organizations. If the Services are to develop officers who possess greater intellectual agility and flexibility, then professional military education should become much more than an obligatory year of attendance at a staff college, followed eventually by another year at a war college. Professional military education must become a cultural attribute that the services inculcate in their officers from the beginning of their career through to the end.[35]

Moreover, serious professional military education must in many, rather than a few cases, involve serious graduate level study in the major graduate schools of the United States. It should involve the study of military history, foreign languages, area studies, and international relations. It must also involve professional reading lists that officers take seriously.[36] But few officers can afford to widen out their careers at present by following such a career path because of the iron laws of personnel systems and the myriad jobs officers must hold in order to climb the ladder to higher ranks.

What Is to Be Done?

The most important element in improving professional military education in order to create a more open and flexible military culture demands a massive overhaul of the personnel systems, starting with Title 10's entire framework. Such an overhaul represents the only possible path towards providing avenues of graduate education that would stretch the intellectual framework of the best officers throughout their careers. The task of addressing a reform of the personnel systems, however, lies beyond the scope of this chapter. There are, however, a number of things that the services could do without such a reform that would substantially improve military education and create climates within their organizations that would be more conducive to the kind of transformation and innovations that took place in the 1920s and 1930s.

To begin with, one should note that the current situation of professional military education represents a considerable

improvement over what existed in the 1980s.[37] At that time only the Naval War College possessed both the pretensions and the academic excellence to be considered a first rate academic institution of graduate education. The remainder of the landscape represented an academic wasteland.[38] The creation of second-year programs and other programs have filled some of the gaps. Moreover, the reforms initiated by Congressman "Ike" Skelton have had an impact in improving the general level of military education. Unfortunately, for the most part the system has atrophied over the past decade. So what needs to be done?

First, the services and the joint world need to form a larger vision, a basic philosophy if you will, of what professional military education should represent in its contribution to the preparation of American officers to the professional of arms. Admiral Stansfield Turner, the reformer of the Naval War College in the early 1970s, best expressed how to think about both the whats and the hows of professional military education:

> War Colleges are places to educate the senior officer corps in the large military and strategic issues that confront America . . . They should educate these officers by a demanding intellectual curriculum to think in wider terms than their busy operational careers have thus far demanded. Above all the war colleges should broaden the intellectual horizons of the officers who attend, so that they have a conception of the larger strategic and operational issues that confront our military and our nation.[39]

What is needed at present is a basic philosophy of professional military education that encompasses its purposes and aims for the entire Department of Defense—not just in terms of the staff and war colleges, but rather for career-long efforts by officers.

Second, the services need to select only the very best of their officer to attend their staff colleges and war colleges. Such a process of selection needs to involve much more than selection boards. Rather the American military needs to follow what virtually every military in the first-world is at present doing: a selection process that involves an intellectual hurdle as well as selection boards. Such a hurdle could involve examinations (which was the method used to gain entrance to the *Kriegsakademie* in Germany), performance

in a nonresident course, involving both examinations and papers, performance in branch schools, or some combination of the above.

The aim would definitely not be to select pointy headed intellectuals from the officer corps, but rather to select those officers, who have managed to combine tactical and operational excellence with intellectual curiosity in their careers. As Lieutenant General Don Holder, U.S. Army retired, commented in an article written jointly with the author: "Requiring officers to qualify for attendance at the staff and war colleges would shock the officer corps at first, then stimulate great improvement."[40] In every respect entrance to staff and war colleges must become an attainment towards which officers strive.

Third, the size of the institutions of professional military education needs to be scaled down. Smaller institutions, with a student body limited to the best and the brightest, would make it far easier to assemble first class faculties. For the most part, the staff and war colleges contain too many military faculty who are simply riding out their time until retirement. Moreover, while there are a considerable number of first-class, intellectually motivated officers who would make wonderful teachers at staff and war colleges, there are few incentives for them to remain on active duty. The Army War College has recently begun to address this problem, by selecting a small number of its best students to attend some of the nation's best graduate schools to earn doctorates in subjects like military history and international relations. Those officers then return to the war college to finish out the remainder of their careers on the faculty.

The fourth element of a reform of professional military education would be that the academic performance of student officers would play a direct role not only in their eventual promotion, but in assignments as well. As in all other assignments, officers would receive a regular fitness report on their performance in school. That fitness report would not be limited to generalities, but contain how the officer actually performed in the classroom, in his written assignments, and in his examinations. It would remain as a basic report card on his or her intellectual suitability for further assignments and promotion. Would such a system result in a grade grubbing?[41] In some cases perhaps, but in fact virtually everything else in an officers career is judged or graded by his superiors—why

not his intellectual acuity?

CONCLUSION

Perhaps the most important enabler of transformation and innovation in the past has been the culture of the military organizations that have grappled with an uncertain and ambiguous future, a future made more complex and difficult by tactical, operational, and technological changes, the impact of which are almost impossible to predict under peacetime condition.[42] Yet, the evidence is clear that those military institutions that developed organizational cultures where serious learning, study, and intellectual honesty lay at heart of preparation of officers for war, were those best prepared for the challenges that they confronted on the battlefield.[43] The example of the American military in the 1920s and 1930s underlines this point in spades. The example of an officer corps, where honest, intellectual efforts to deal with intractable problems characterized many of its officers and virtually all of those who led so well in the coming war, should provide the American military of the 21st century with an incentive to follow a similar path. An officer corps, where not only learning but teaching in schools of professional military education is career enhancing, is an officer corps that is preparing itself, at times unconsciously, for the challenges of the future.

Transformation and innovation are not a matter of just technology. At best technology can yield modernization, and it is well to remember that in 1940 the French Army possessed tanks that were for the most part far superior to those possessed by the Werhrmacht. But with a doctrine that almost entirely misinterpreted the lessons of the last war, the French suffered a catastrophic military defeat on the banks of the Meuse in May 1940.[44] And the American military should not forget that its nation's worst defeat resulted largely from a military and civilian leadership that prized modern technology over the lessons of the past; a leadership that was not only contemptuous of the Vietnamese enemy, but largely ignorant of his motivations, culture, and ideology. Thus, it was the enemy of the United States, who was willing to "bear any burden, pay any price," and who understood his American enemy far more coherently and effectively than Americans understood him. If the

American military does not desire to repeat the mistakes of the past, then it needs to create a learning culture, where intellectual preparation is as prized as tactical preparation.

There is, of course, another road, down which it can choose to go. The performance of America's military institutions from 1991 to the recently completed war with Iraq represent the triumph of a systematic approach to training and education that the services put in place in the 1970s and early 1980s. And yet its very success carries with it considerable dangers. At present the leadership of the American military have grown up within the current system. They know no other approach. Yet one can ascribe the results of the present system to any number of other causes than the schoolhouses that educate America's officers. In the recent past, senior civilian leaders have written memos suggesting that the services can replace entirely in-residence schools with distance education, all at immense savings in funding, personnel moves, and faculty salaries. There are many among current senior military leaders who believe that serious education is simply a waste of an officer's time—an attitude the Navy has enshrined in its complete disinterest in sending its officers to schools of professional military education.[45]

The difficulty with any such dismissal of the educational system of the past 30 years is that we will not know the results of a radical wasting of the current system until it is too late. As one of the most respected professors At the Army War College suggested in a recent e-mail to the author:

> Consider now, that even as the educational successes of the past twenty-five years are on display, there are those who would dismantle the Army's educational programs in pursuit of short-term economies of questionable worth based on unproved or unfounded assertions. All across the Army there are initiatives afoot to curtail time in school for all grades, officer and enlisted, to save money and increase numbers of personnel out with the fielded force. In place of the months and years in the school house the Army seeks to leverage technology and supplant the resident educational experience with distributed learning or distance education. In this information age there is a belief that approaches a theology that one can learn as much by sitting at a computer as in a classroom. . . .
>
> At risk in this exercise is the future.[46]

"At risk in this exercise is the future." But should we go down such a road, it will be another generation that will bear the burden and pay the price of a military leadership no longer possessing the intellectual depth or wisdom to address intelligently the questions of strategy and complex operations that the U.S. military will confront two or three decades in the future.

ENDNOTES - CHAPTER 1

1. Major General Robert Scales, Commandant of the Army War College until June 2000, created the Advanced Strategic Arts Program to address a major need at the highest level for strategic planners who understood grand strategy, past, present, and future as well as the emerging joint world. The program was enthusiastically supported by his successor as Commandant of the Army War College, Major General Robert Ivany.

2. These words were being written in Tokyo, Japan at a time, March 18, 2002 when Japan and the United States were grappling with the serious problems raised by a North Korean government that appeared on the brink of building its own nuclear weapons, and at a time when U.S. and Allied forces were about to start their campaign against Saddam Hussein's regime.

3. In Europe serious professional military education first appeared in Prussia in the first decade of the 19th century, as a result of the catastrophic defeat of the Prussian Army in the double battle of Jena-Auerstadt in October 1806. The creation of the *Kriegsakademie* represented the first attempt to educate officers in the art of strategic and operational planning. Similarly the creation of the staff college in France reflected the catastrophic defeat of that nation in the Franco-Prussian War of 1870-71. For the impact of the 1806 military defeat on the Prussians, see Peter Paret, *Clausewitz and the State*, Princeton, NJ, 1985. For the French defeat in 1870, see particularly, Michael Howard, *The Franco-Prussian War, The German Invasion of France, 1870-1871*, London, 1962.

4. The British Army established a staff college in 1854, as a result of its debacle in the Crimean War. However, the Navy failed to follow suit until 1911, when that service's dismal performance in the debate over British strategy before the Committee of Imperial Defense led the liberal government, Winston Churchill and Lloyd George in particular, to force a staff college on an unwilling naval service. By then it was too late to influence the nonexistent intellectual preparation of the Royal Navy for the coming war. For the creation of the Army Staff College, see Brian Bond, *The Victorian Army and the Staff College, 1854-1914*, London, 1972; for the Royal Navy's less than sterling intellectual preparation for the coming war, see Andrew Gordon, *The Rules of the Game, The Royal Navy and the Battle of Jutland*, London, 1999.

5. This was largely the result of the German military leadership's emphasis in post-world War II accounts of the role that professional military education played in their preparations for war. What, of course, they did not mention was the fact that that education had completely failed to prepare German officers for the strategic, logistic, and intelligence challenges which the war they had unleashed presented them and their nation. For a discussion of these issues, see Williamson Murray, *German Military Effectiveness*, Baltimore, MD, 1992, chpt. 2. See also James S. Corum, *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform*, Lawrence, KS, 1994.

6. The author has been told by members of the faculty of the Naval War College that over the past 40 years only *one* future admiral actually taught on the faculty of the Naval War College before promotion to admiral. As recently as 3 years ago, the biographies of admirals on active duty released by the Navy's Office of Public Relations indicated that over half of the admirals on active duty had never attended a senior service college.

7. Admiral Raymond Spruance, also upon completion of his fleet command at the end of the World War II, chose to return to Newport as the President of the Naval War College. The choice by two of America's leading admirals during the course of the first half of the 20th century to focus their last years of military service on the professional education of officers says a great deal about the organizational culture of the Navy during this period.

8. One expert on the history of war games has noted about these games that they "contributed substantially to the development of ideas about how to employ the aircraft carrier." Peter P. Perla, *The Art of Wargaming: A Guide for Professionals and Hobbyists*, Annapolis, MD, 1990, p. 71.

9. For the importance of red teaming in history to the success of military institutions in innovating during periods of peace, see Williamson Murray, "Red Teaming: Its Contribution to Past Military Effectiveness," Dart Paper, Hicks and Associates, November 2002.

10. Norman Friedman, Thomas C. Hone, and Mark D. Mandeles, *American and British Aircraft Carrier Development, 1919-1941*, Annapolis, MD, 1999, p. 34.

11. *Ibid.*, p. 34.

12. See, particularly, Stephen Peter Rosen, *Winning the Next War, Innovation and the Modern Military*, Ithaca, NY, 1991, p. 69.

13. The problem of the sustainability of aircraft at sea would force the Navy to develop radial engines which eventually proved as efficient as in-line engines, but much easier to maintain. This fact was to play a major role in the successful

sustainment of U.S. air power (army air forces as well as Naval air) over the great distances involved in the projection of American military force.

14. *Ibid.*, p. 42. Reeves' innovations were to be critical in showing that carriers could handle large numbers of aircraft under the most trying circumstances. With that proof of the concept, the Navy was in a position to take full advantage of the huge carrying capacity that the new aircraft carriers *Lexington* and *Saratoga* would offer upon their completion as aircraft carriers (they had originally been laid down as battle cruisers) and arrival in the fleet in the late 1920s.

15. *Ibid.*, pp. 40-43.

16. Chester W. Nimitz, "1923 Naval War College Thesis," *Naval War College Review*, November-December 1983, pp. 12-13.

17. Allan R. Millett, *In Many a Strife, General Gerald C. Thomas and the U.S. Marine Corps, 1917-1956*, Annapolis, MD, 1993.

18. It is also worth noting that Lejeune also played a considerable role in the founding of the *Marine Corps Gazette*.

19. Along these lines, Winston Churchill in his great memoir and history of the war (*The World Crisis*, 5 vols., London, 1928-31), of course, did examine the Gallipoli campaign in great detail—as he suggested, "the terrible if's accumulate." But the British system of professional military education displayed little interest in the Gallipoli campaign except to prove that amphibious operations were impossible in the 20th century and, therefore, there was no reason for the British services to prepare for such operations. For the negative attitudes in the British military towards the possibilities of amphibious warfare in the late 1930s, see Williamson Murray, *The Change in the European Balance of Power, 1938-1939, The Path to Ruin*, Princeton, NJ, 1984, chpt. 2. Those attitudes, of course, changed with the fall of France and Winston Churchill's demand that the British military think seriously about a return to the European continent.

20. Allan R. Millett, "Assault from the Sea, The Development of Amphibious War between the Wars, The American, British, and Japanese Experience," in Williamson Murray and Allan R. Millett, eds., *Military Innovation in the Interwar Period*, Cambridge, 1996, p. 74.

21. Millett, *In Many a Strife*, p. 128.

22. Millett, "Assault from the Sea," p. 77.

23. Carlo D'Este, *Eisenhower, A Soldier's Life*, New York, 2002, pp. 176-183.

24. Forrest C. Pogue with the editorial assistance of Gordon Harrison, *George C. Marshall*, Vol. 1, *Education of a General, 1880-1939*, New York, 1963, p. 248.

25. Quoted in *Ibid.*, p. 256.

26. Major Harding, *Infantry in Battle*, Fort Benning, GA, 1930, p. ix.

27. For an examination of the development of Army Air Corps doctrine, see Williamson Murray, *Luftwaffe*, Baltimore, MD, 1985, Appendix 1.

28. Nothing underlines this better than a memorandum that appeared under the signature of a very senior civilian official in the Department of Defense. The memorandum argued that much of the education that occurred in-residence could be replaced by distance education and nonresident courses. Part of the problem was the fact that the services have been claiming for a number of years that nonresident course completion was the same as resident course completion—a fact that even those making the argument knew was patently untrue.

29. For a discussion of the evolution of American military culture and attitudes toward professional military education, see Williamson Murray, "Clausewitz Out, Computer In, Military Culture and Technological Hubris," *The National Interest*, Summer 1997; see also Williamson Murray, "Does Military Culture Matter?" *Orbis*, Winter 1999; and Williamson Murray, "Military Culture Does Matter," *Strategic Review*, Spring 1999.

30. To a certain extent the creation of SAMS represented a defeat for the TRADOC commander at the time, General Don Starry, who wanted to restructure entirely the curriculum at the command and staff college.

31. Not surprisingly, the Navy, which has consistently refused to send its best officers to schools of professional military education, has failed to create a second-year program for its officers.

32. Or which one could expect serious officers to know something about. But since the staff colleges and war colleges often pitch their curricula to the lowest common denominator—in other words officers who have not bothered to learn the basics of operational art or the political framework of national strategic decision making, they end up in dispersing their focus over a myriad of subjects—some relevant to the military profession, many not.

33. One of the stranger aspects of military education is that both the Air Force and until recently the Army, expend considerable effort to provide serious graduate education for the captains who are going to serve on their faculties of West Point and the Air Force Academy, but have required no academic credentials for the faculty who teach at their war colleges. However, the Army is now

attempting to rectify that situation by sending a number of lieutenant colonels and colonels from the war college classes to get Ph.D's before beginning a tour on the faculty at Carlisle.

34. Conversation with Lieutenant General Paul Van Riper, USMC, Quantico, VA, May 1997.

35. General Anthony Zinni, USMC Retired, has been arguing for such an approach over the course of the past decade.

36. Only the Marine Corps at present has produced a list of books, in what one might best term war studies, that it actively encourages its officers to read.

37. See, in particular, Committee on Armed Services, House of Representatives, One Hundredth Congress, "Hearings before the Panel on Military Education," Washington DC, 1990.

38. For the general lack of academic rigor and academic qualifications at the time, see Williamson Murray, "Grading the War Colleges," *The National Interest*, Winter 1986-1987. For the failure to follow up fully on the recommendations of the Skelton Committee, see Leonard D. Holder, Jr., and Williamson Murray, "Prospects for Military Education," *Joint Forces Quarterly*, Spring 1998.

39. Quoted in Williamson Murray, "Grading the War Colleges," *The National Interest*, Winter 1986/1987.

40. Holder and Murray, "Prospects for Military Education," p. 88.

41. That was certainly the argument at some of the war colleges that did not give grades in the early 1990s, but in fact grades do demand that students seriously address their work, as the disastrous collapse of America's schools under the influence of the 1960s educational philosophy has underlined in spades.

42. Under the direction of Mr. Andrew Marshall, the long-time director of the Office of Net Assessment in the Pentagon, the author and his colleague, Professor Allan Millett of The Ohio State University, have been struggling to tease out the lessons of past military history to understand the processes of innovation and transformation. See, in particular, Allan R. Millett and Williamson Murray, eds., *Military Effectiveness*, vol. I, *World War I*; Vol. 2, *The Interwar Period*; and Vol. 3, *World War II*, London 1988; and Williamson Murray and Allan R. Millett, eds., *Military Innovation in the Interwar Period*, Cambridge, 1996. It is worth noting the Mr. Marshall has also supported a wide-range of historical studies, many of which have extended our understanding of how the processes of innovation have worked in the past in the real world.

43. For military institutions that made virtually no effort to prepare themselves for the coming war and the dismal results that their culture engendered in the battles of the second World War, see MacGregor Knox, *Mussolini Unleashed, 1939-1941, Politics and Strategy in Fascist Italy's Last War*, Cambridge, 1982; see also the same author's *Hitler's Italian Allies, Royal Armed Forces, Fascist Regime, and the War of 1940-1943,* Cambridge, 2000. Italian military incompetence resulted entirely from the general lack of intellectual interest in the profession of arms.

44. For French doctrine, see particularly Robert Allan Doughty, *Seeds of Disaster, The Development of French Army Doctrine, 1919-1939*, Hamden, CT, 1985; for the defeat on the banks of the Meuse, see, particularly, Robert Allan Doughty, *The Breaking Point, Sedan and the Fall of France, 1940*, Hamden, CT, 1990.

45. In 1997 a perusal of the biographies of the admirals on active duty indicated that fully half of them had *never* been to a staff or a war college.

46. E-mail from Colonel Leonard J. Fullencamp, U.S. Army Retired, to Williamson Murray, April 17, 2003.

CHAPTER 2

BALANCING TYCHE: NONLINEARITY AND JOINT OPERATIONS

Colonel Stuart A. Whitehead

> Preparing for the future will require new ways of thinking, and the development of forces and capabilities that can adapt quickly to new challenges and unexpected circumstances. The ability to adapt will be critical in a world defined by surprise and uncertainty.
>
> Donald H. Rumsfeld[1]
> Secretary of Defense

The unforgettable events of September 11, 2001, awoke, once again, a "sleeping giant." In response to terrorist attacks, recent and ongoing operations in Afghanistan have demonstrated effective innovation against a complex, distributed, and adaptive enemy. But as the war on terror continues, the enemy will respond to coalition actions in unexpected ways. Unfortunately, the world of the terrorist will never be one of isolation. State sponsors will continue to finance, train, and resource non-state actors as their surrogates in pursuance of national interests. As the United States and its allies confront such states, the complexion of nations and possibly entire regions may evolve in unforeseen directions. In anticipation of this prospect, long-term U.S. success will lie in institutionalizing a culture that values adaptation so that tomorrow's creative solutions will not be the exception, but rather the rule.[2] The challenge facing the armed forces of the United States is to develop an effective military doctrine that meets their needs as well as the needs of government agencies and multinational organizations. Such an effort represents a significant departure from the past and encompasses a fundamental change in the way the American military must think about war and its prosecution.

The purpose of this chapter is to demonstrate that centuries of linear thought have and continue to shape war fighting doctrine,

despite the fact that nonlinearity is more reflective of the actual nature of war. First described as "Tyche," the personification of fortune by Thucydides,[3] more recently nonlinearity has become an important paradigm for understanding warfare.[4] By recognizing and incorporating key aspects of nonlinear theory in a 21st century American approach to warfare, the U.S. military can overcome many of the theoretical limitations it currently faces in formulating Joint doctrine.

The Nature of Paradigms.

Since the dawn of time, man has sought to understand the world around him and his place within it. For Plato, man's cognitive world was always an approximation of a paradigm (a clear and indisputable example, or standard against which to judge other instances).[5] But as Thomas Kuhn argued in his theory of scientific progress, scientific knowledge is more than purely objective; it rests on "'dominant paradigms,' accepted theories that reflect and uphold a certain viewpoint."[6] As an example, consider that Europe in the Middle-Ages functioned according to an elaborate system, linking natural phenomena to theology and government. That system represented an earth-centered Ptolemaic taxonomy: precise, observable, and wrong. Yet for centuries, it defined European man's universe and his role within it.

Like many systems of the past, Aristotelian physics and cosmology reacted sensitively to seemingly minor inputs. Among these stimuli were the ideas offered by the scientist Galileo Galilie in his *Dialogue Concerning the Two Chief World Systems*.[7] Galileo observed inconsistencies in the Ptolemaic universe, ones that reinforced earlier observations by Johannes Kepler and Tycho Brahe. Through personal genius and advances in technology, Galileo documented nature through the use of a telescope. Thus, he advanced further the argument of a heliocentric universe. In short, by moving the sun to the center of the universe, he challenged over a thousand years of Catholic dogma and irrevocably changed the relationship between man, science, religion, and nature.[8] As Kuhn would suggest, the Ptolemaic system was the dominant paradigm. Nevertheless, while

it represented a generally accepted explanation of things, it suffered from observable anomalies. The strength of any paradigm rests in its ability to overcome anomalies; as scientists began to question the veracity of the Ptolemaic universe, the idea of a heliocentric universe gained favor.[9] Paradigms, however, do not give way easily, especially when societal structure, sources of power, institutions of learning, and professional careers rest on the propagation of their precepts: enter what Kuhn coined, "the paradigm shift." Once a dominant paradigm becomes so overloaded with exceptions, forced upon it by a growing number of observable anomalies, another replaces it. It is during the unstable transition period, when the old paradigm erodes against the onslaught of new thinking that "*revolutionary science*" appears.[10] Thus, the paradigm shift yields a new *Weltanschauung* and the ability to explore new possibilities with fresh thinking.[11]

In much the same way as Galileo sought to understand the universe, militaries have devoted much effort to understanding their particular environment: war. This is especially true in the wake of the ultimate "paradigm shift," defeat. In such circumstances, having experienced first hand the fury of a new technology, tactics, or operational art, defeated militaries typically conduct detailed analysis of change.[12] Carl von Clausewitz is perhaps the supreme example of this phenomenon. His was an intellectual journey, born of the Napoleonic throttling of Prussian forces at Jena-Auerstadt and culminating in a theory of war unique to the literature of armed conflict.[13] By his example, through the study of history, generations of military officers have sought to understand their profession; yet many only manage to take from it superficial analysis, dogma, and false conclusions.[14] Why this has occurred is due in great measure to the tools with which the legions of well-intended professionals were equipped, namely their education, culture, and the contemporary paradigm.[15] Today, U.S. officers are no less challenged.

Linearity.

At an early age children learn, in geometry for example, that the shortest distance between two points is a straight line. Linear equations exhibit a character described by the conditions of

proportionality and *additivity*. Proportionality means that changes in the system's input are proportional to its output. Additivity refers to the idea that the whole is equal to the sum of its parts.[16] Together these concepts suggest that if one knows a line's equation, one can determine the exact value of each variable, as well as their proportion to each other. More importantly, one can, therefore, accurately predict the path of the line into the future. All of this assumes the equation is free of external influence and that its elements are precise and remain in isolation. From an analytical point of view, linearity also means that one can understand "the whole" by an examination of its parts. Much like the Ptolemaic Universe and Newtonian Physics, the linear paradigm proved, and in many ways continues to prove, valuable in both understanding and predicting phenomena.

Turning to the conduct of war, linearity is endemic to the theory and prosecution of the American way of war. Beginning with Henry Halleck's translation of Jomini in 1846, generations of American officers have studied the concepts of a theater of war, base of operations, key and objective points, lines of operations, and interior, exterior, concentric, and eccentric lines, among a host of linear examples.[17] As a consequence, such concepts have played prominent roles in U.S. military history, whether in the Allied campaigns in Europe, in DESERT STORM, or even today. Current Joint doctrine, for example, reflects Jomini's influence in its definition of lines of operation: "Lines which define the directional orientation of the force in time and space in relation to the enemy. They connect the force with its base of operations and its objective."[18]

Linearity's attraction and durability in military affairs owes much to its quantifiable nature and the fact that it is reasonably precise and predictive of capability and outcome. When and where anomalies occur, scientists usually attempt to find mathematical and or technological solutions. Typically, the technological approach focuses on gaining more accurate information about the enemy and the operational environment. This approach was recently manifest in the slogan, *Lifting the Fog of War*, in which one influential former senior officer suggested a radical restructuring of the U.S. military to take advantage of the potential of information technology.[19] Mathematics, on the other hand, is a tool to predict outcomes more accurately. For example, the integration of probability equations and

sensitivity formulas has, to a degree, overcome the specter of the inexplicable outcome. Leaders, then, are able to determine results of automated wargames to within an acceptable margin of error. In their respective spheres, both mathematics and technology attempt to solve the "knowledge conundrum." This is the idea that the failure of the linear approach (that war is not predictable) results from the lack of some key element of information.[20] Without that information, the system acts sensitively and unpredictably to its input. For this reason, by the standards of linearity, the solution to overcoming friction in war is access to better information, thereby improving situational awareness.

With this in mind, modern operational design applies concepts such as "systems" and "nodal analysis" to pursue improved situational awareness. In practice, however, the attempt often reflects merely a refinement of the linear approach.[21] Systems theory strives to understand the structure of an opponent through an analysis of its parts. Colonel John Warden's "Five Ring Model," as an example, reflects such an approach. Acknowledging that each situation exhibits potentially different vulnerabilities, Warden ascribes five basic centers of gravity or (rings of vulnerability) that are "absolutely critical to the functioning of the state."[22] The rings include the fielded military, the population, the infrastructure, organic essentials, and leadership. In prosecuting a campaign the goal is to apply actions against the mind of the enemy command or the system as a whole.[23] Thus, action may occur directly against the enemy leadership, or take a more indirect approach, chipping away at weaker points until the path of least resistance leads to the collapse of a major vulnerability.

In the best of circumstances "parallel attack" leverages the model by preventing the enemy from responding effectively to multiple, simultaneous attacks. However, much like a linear equation, his concept implies both an external and internal structural immutability and isolation. That means the operational design selected before the start of a campaign can actually capture reality. "The trick," as Michael Howard observed, "is not to get it too wrong."[24] Regardless, such an approach requires extremely detailed and accurate prior knowledge and situational awareness of the entire structure and its parts. It also requires confidence that the selected course of action is

in fact correct and will remain applicable until the conclusion of the campaign. Most importantly, the Five Ring Model assumes that the enemy is incapable of significant change throughout the duration of a conflict. It is perhaps with such assurances in mind that an ancient Sufi text cautions, "You think because you understand *one* you must understand *two*, because one and one makes two. But you must also understand *and*."[25]

Nonlinearity.

In war games, as in combat, seemingly insignificant events can have unanticipated and serious consequences; thus, "for want of a nail," a wholly disproportional outcome can ensue. The theory of nonlinearity reflects reality. It disregards the qualities of proportionality and additivity, in that resulting outcomes may be erratic.[26] More to the point, disproportionally small or large outputs, relative to the inputs, flies in the face of the Western philosophical tradition, which postulates that truth resides in the simple, rather than in the complex.[27] But as Mark Twain said, "For every complex problem there is a solution that is simple, neat, and wrong."[28] As a concept, nonlinearity describes the world as it is, with its inherent complexities, rather than confining its perspective to the proportionally small, but quantifiable portions of existence.

By modern characterization, nonlinearity falls under the rubric of "new sciences" (including quantum physics and chaos theory).[29] All that not withstanding, Clausewitz was one of the first to capture many of the essential aspects on nonlinearity. As Alan Beyerchen has observed: "Interconnectedness and context, interaction, chance, complexity, indistinct boundaries, feedback effects and so on, all leading to analytical unpredictability—it is no wonder that *On War* has confused and disappointed those looking for a theory of war modeled on the success of Newtonian mechanics."[30] Clausewitz understood that attempting to achieve exact analytical solutions was impossible given war's nature. Therefore, the ability to predict accurately the course or result of any particular conflict is severely limited.

Sensitivity.

Only since the advent of computers have scientists succeeded in physically demonstrating what Clausewitz attempted to capture in *On War*. By attacking nonlinear problems numerically, computers have also highlighted patterns of instability. For example, in "chaos theory," chaos results when a system is both nonlinear and sensitive to initial conditions. In such a case immeasurably small differences in input produce surprisingly different outcomes for the system and to a degree of complexity that exhibits characteristics of randomness.[31] However, over time systems can exhibit at least three outcomes: they can eventually settle to some single state and remain there despite further iterations (long term stability); they can settle on a series of states, through which they cycle endlessly (periodic behavior); or wander aimlessly or unpredictably (so-called "chaotic" behavior).[32] This third state illustrates dramatically what some scientists have termed, a "strange attractor," demonstrating that perhaps there is indeed a pattern to "chaotic" behavior.[33]

Military history possesses numerous examples of such behavior, ranging from institutional inertia and entrenchment to an enthusiastic commitment toward radically new thinking. In 1870, for example, despite their best intentions, the French failed to employ properly a form of early machine gun they had developed in the Franco-Prussian war. This error, combined with both a flawed command and control system and doctrine, resulted in French defeat at the hands of the North German Confederation.[34] After World War I, the British Army's leadership, wishing to present their performance in the most favorable light, suppressed and distorted analytical conclusions concerning that conflict, while institutionalizing an anti-intellectual culture.[35] Conversely, in an environment of technological parity, theoretical developments, accompanied by modest resource investment and innovative doctrine, allowed the Germans to achieve extraordinary results through *Blitzkrieg*.[36] The nonlinear aspect of war offers the prospect of a variety of outcomes, not necessarily apparent in the period preceding conflict. The key, however, is to recognize and positively exploit such potentialities before they become the tools of an opponent.

Role of Variables.

Within a nonlinear system, it is not possible to isolate variables effectively from each other or from their context. Thus, not only do truly dynamic interactions ensue within the system, but they are a defining characteristic.[37] Unlike the cause and effect characteristics of linearity, nonlinearity embodies a more holistic universe, in which one must view elements not only as a whole but within the context of each other. Just as the human body consists of complex groups of interdependent systems (nervous, respiratory, muscular, digestive, endocrine, skeletal, urinary, reproductive, integumentary, and circulatory), a break down of a critical organ can have a disastrous effect on the body as a whole. Thus, a human can die as easily from improper field sanitation as from a projectile. From a broader military perspective, the same is true of the many essential and interrelated subsystems that contribute to combat capability: intelligence, command and control, air defense, combat power (land, air, and sea), and sustainment, among others. A failure in any one key area could spell disaster for the entire system. Knowing what is vital and how to seek protection, while exploiting an enemy's vulnerability, is a basic factor to success.[38] The degree that one can achieve destruction against an opponent with an economy of force represents nonlinearity in action.

Interaction.

Clausewitz observed that, "War is never an isolated act."[39] As a phenomenon, it represents the interaction of antagonists played out within the realm of temporal dynamism. Consequently, understanding war requires an understanding of the nature of interaction. *On War* captures the interactive nature of war by way of three increasingly sophisticated definitions: First, "the duel . . . an act of force to compel our enemy to do our will." In this metaphor war is not just each opponent's sequence of intentions and actions, but the pattern generated by their mutual interaction. Moreover, Clausewitz contends that actual war never occurs without a context and that its results are never absolutely final. By context he means the unique

political and cultural situation that surrounds a given war. As an example, he uses the nonlinear image of combustion to exemplify how a simple quarrel can have a disproportionate effect—a real explosion (such as the wars of the French Revolution).[40] That wars are never final refers to the fact that at its conclusion (if not before), war has an effect. It will generate an outcome, perhaps even one that is unintended, and this will feed back into the political context. Wars, therefore, are inseparable from their context, which is always characterized by feedback.

Second, "war is merely the continuation of policy by other means."[41] Here Clausewitz attempts to capture the continuously changing aspect of war, one that he describes as being a true chameleon that exhibits a different nature in every concrete instance. In other words the ends-means relationship does not always work in a linear fashion. The constant interplay is an interactive feedback process wherein war's character changes continually and from that process, other outcomes flow.[42]

Finally, in his third definition Clausewitz introduces the famous model of the trinity (violence, hatred, and chance manifested as people, government, and army) explained through the use of a scientific metaphor: a magnetic pendulum suspended between three powerful magnets. Not readily apparent in reading *On War* is the physical result of the experiment and hence its true heuristic value. When one releases a pendulum in such a case, it darts about in a seemingly random fashion, sometimes kicking out hard enough to continue swinging in a long and intricate pattern. One can never repeat the pattern, however, because man is physically incapable of replicating the experiment with exact precision. In effect, Clausewitz uses this physical phenomenon to describe the modern concept of chaos theory, pointing to the difference between pure theory (with exact measurements) and the real world (filled with friction). The power of this example lies in the idea that the trinity is not made up of three *passive* points, but three *interactive* points that simultaneously pull war in different directions, forming a complex interaction each with the others.[43] It is not possible to isolate the points from either their context or chance; hence both complexity and probability characterize the movements.

Moving from a scientific to a philosophical example, the idea of interaction is rooted in the ideas of two British philosophers. George Berkeley and David Hume believed that man did not passively observe and absorb knowledge; rather, by the process of observation, man creates knowledge and molds the world through his own consciousness.[44] This idea has found an echo in the contemporary words of physicist John Archibald Wheeler, whose perspective is one of a participative universe "where the act of looking for certain information evokes the information we went looking for—and simultaneously eliminates our opportunity to observe other information . . . [This is] a participatory process, where we create not only the present with our observations, but the past as well."[45] For example, the purpose of a command post is to acquire and transmit information. In particular, staff members within a command post look for certain elements of information: an enemy signature unit, an enemy action, status of unit and so on. Therefore, when engaged in finding out particular information they are, by omission, not looking for other indicators. In the process of acquiring and omitting information, the command post creates its own reality. To the degree that its reality reflects truth, it will be less susceptible to the forces of friction. This phenomenon is an embedded aspect of nonlinearity, in that dynamic interaction is itself the catalyst for change. How interaction occurs, or is prevented from occurring as foreseen (through friction or chance), is the understanding (feedback) needed for situational awareness.

Causality and Energy.

Power and causality, as Hume cautions, is dependent upon knowledge, or "the relation of ideas in our minds." Clausewitz addressed the notion of causality in attempting to answer the age-old question of whether war was an art or a science. His reply was that it is neither. "In war, the will is directed to an animate object that reacts."[46] This idea springs from Hume's investigation of causality and its association with power. His conclusion was that only the mind is the true active substance. Material substance is merely passive and inert. Hume suggests that only through experience can one discover facts; in some cases investigation yields understanding. Important

to this idea is the temporal nature concerning the truth of facts: what may be true today may not be true tomorrow. Science is not all a priori, Hume contends; rather, even causality exhibits randomness. This notion is found today in the expression, "The truth changes," or as Clausewitz argues, it is the very nature of human interaction itself that makes war unpredictable.[47]

Another frequently cited metaphor used to describe the unpredictable nature of causality involves the science of thermodynamics (the physics of the relationship between heat and other forms of energy).[48] In the Second Law of Thermodynamics ("the condition of a system in which the resultant of all acting forces is zero") friction is the nonlinear feedback that leads to heat dissipation of energy in a system "a form of increasing degradation toward randomness, the essence of entropy."[49] To monitor friction, scientists develop negative feedback mechanisms which signal when the system veers from its established course. This approach is useful in maintaining the status quo. If the environment changes while the system remains constant; however, the system over time may continue to function as desired, but it may also become irrelevant.

A more holistic approach takes advantage of positive or amplifying feedback. Rather than signaling a deviation in the system, amplifying feedback triggers a signal upon detecting changes in the environment. Thus, rather than adjusting the system to maintain its designated function or direction, positive feedback triggers the need to change the system in an effort to respond to changes in the environment. At a basic level these distinctions appear in the military adage of "fighting the enemy, not the plan." Negative feedback signals when a plan is going astray. Positive feedback, on the other hand, identifies changes in the battlefield that may generate new dangers or new possibilities. In combat, both types of feedback are necessary precursors to effective, adaptive behavior.

Taking the example of causality in combat a step further, consider that battlefield interaction takes many forms. One of the most fundamental relationships is between offensive and defensive operations. Herein, as Clausewitz demonstrated, lies a paradoxical relationship, highlighted by the concept of culmination. Specifically, the further a force prosecutes the offense, the weaker it becomes. Once the offensive force culminates, it reverts to the defensive

and becomes paradoxically stronger against counterattack. In a thermodynamic sense, *active* energy is exchanged for *potential* energy. Thus, when viewed as a system, a military force in combat defies equilibrium; it is typically either gaining or losing strength. Given that the preservation of one's own force while achieving the destruction of the opponent's defines the acme of success, military force tends to respond as a "self-organizing system."[50] That means that throughout the dynamism of combat, successful military forces continually take stock of their interaction within the environment. By modifying their "ways" in order to increase their strength relative to their opponent's and by adjusting those areas requiring protection, as the situation changes, they are able to exploit opportunities and avoid culmination. Above all, the continuous assessment of capability against that of the enemy yields an understanding of the possible within the realm of chance.

Chance.

It is the realm of chance that offers the strongest contemporary argument for embracing nonlinearity. There are three possible manifestations of chance: "random phenomenon, the amplification of a micro-cause, or a function of analytical blindness."[51] Clausewitz addressed the first two manifestations using the metaphor of a game of cards. In that game, random phenomenon results from initial inputs and the impossibility of knowing with any certainty the ultimate outcome. The fact that the game does not always react in a wholly unpredictable manner is the phenomenon that has historically strengthened the argument of those who would view war as a science rather than an art. In more recent times, mathematicians have used equations of probability to capture chance, particularly in the areas of computer modeling. Nevertheless, as one scholar has pointed out, even computer programming has difficulty replicating incompetence.[52] Perhaps a less damning, but equally salient perspective is the idea of prosecuting a bankrupt strategy—where the misapplication of overwhelming resources, as Harry Summers demonstrated, simply fails to accomplish desired ends. [53] As to the second manifestation, by recognizing that a slight cause can determine a considerable effect, Clausewitz captures the idea of

amplification.[54] This is the basis of nonlinearity.

Regarding the final characterization of analytical blindness, mathematician Henri Poincare warns, that "weakness forbids us from considering the entire universe."[55] As a consequence, there is a natural tendency to divide the problem and address the pieces singularly. This of course is reflective of a linear approach to war and negates the linkages endemic to any system. For example, even when applying new ideas for prosecuting war at the strategic level in Warden's Five Ring Model, the fourth ring (population) can be the least susceptible to direct attack; yet paradoxically it is often the most important consideration.

Regardless of which manifestation chance assumes, the goal is not simply to identify it, but rather to understand it. To overcome chance, then, intelligence, combined with education and training, is necessary to comprehend what one sees. The better one side understands an adversary, the less susceptible that side will be to uncertainty. Nevertheless, no matter how much effort a military organization applies to the collection of intelligence, it is simply impossible to know all there is about an environment, or, perhaps more importantly, accurately predict the impact of interaction within it.[56]

Change.

War is an open system, and one cannot isolate it from its environment. At the most basic level, armies recognize this fact. Commanders attempt to evaluate their capability against that of their enemy to ascertain, if they are winning. Headquarters of all types are replete with status charts and environmental assessments, describing the status of friendly and enemy unit strengths and dispositions. Even as "digitization" brings to command posts the possibility of more accurate and timely information, however, the outcome is generally just the automation of manual, linear processes. This is important in so far that determining combat power is the physical result of battlefield interaction. More critical, however, are the collective responses to combat and the questions they generate. How have the antagonists changed? How has the nature of the war changed? What are the implications? These questions are not so

easily (or often quickly) answered and are only exacerbated by the nature of high tempo operations, in which windows of opportunity open and shut rapidly, often with little warning.

A further complexity at the strategic level is the fact that all the elements of national power bear on a conflict. How to recognize the effect of ongoing diplomacy during combat, for example, is germane to understanding both changes in the political climate, as well as military effectiveness. If the political nature of the conflict changes, chances are the military approach must also change. However, war is not the sole domain of the ever changing chameleon. More apparent is the "shape shifting" nature endemic to military operations other than war, as operations move from peace enforcement, to peace building and peace keeping, or reversion to any previous state in the spectrum of operations. The more players involved, the more complicated the environment. What is essential, regardless of the nature of the operation, is that as leaders attempt to understand the nature of their conflict, they cannot simply divide responsibilities into discrete, "manageable pieces." The pieces still react to each other and as they do, they shape the nature of the environment.

The Soviet Sponsored Paradigm Shift.

A nonlinear approach addresses war holistically. By imagining possible outcomes and the sensitivity of the system, it is possible to design both positive and negative feedback loops that permit the system to deal with friction, or self organize in response to environmental change. Feedback loops account for the interaction of the component subsystems and with respect to external agents. In practice, this approach can appear radical rather than evolutionary; however, history suggests that it is achievable and effective.[57]

Arguably the single best example of a nonlinear, holistic attempt to understand a future war fighting environment occurred in the Soviet Union immediately following World War I. That country's ambitious efforts to examine the nature of war by way of a systems approach and project the implications of its research into force design, stands as a model of applied theory.[58] What is more, the Soviet "new thinking" still contributes greatly to an understanding of the possibilities offered by embracing nonlinearity. From the

onset, the Soviets applied a nonlinear template to their analysis. At its heart was the idea of neutralizing an enemy system's ability to attain its goals. This provided the abstract, yet logical, framework for a ground breaking approach toward operational maneuver.[59]

When committed to paper, the concept of operational maneuver included three major parts: fragmentation, simultaneity, and momentum. First, the "fragmenting strike" was a penetrating column created from succeeding echelons. Each echelon had a specific function: break in, break through, break out, and advance to an operational depth.[60] The aim of deep penetration was to achieve a center of gravity, which would provide a position of advantage when reverting to the defense. Once again Clausewitz' thoughts on the nature of culmination ring true:

> Far from being idle sophistry, we consider it to be the greatest disadvantage of the attack that one is eventually left in the most awkward defensive position....This is why the great majority of generals will prefer to stop well short of their objective rather than risk approaching it too closely, and why those with high courage and an enterprising spirit will often overshoot it and so fail to attain their purpose. Only the man who can achieve great results with limited means has really hit the mark.[61]

The "fragmenting strike" serves two purposes. In the form of a "dividing strike" it can sever an operational entity from its broader strategic complex; this included isolation from the environmental context, or the isolation of a subsystem from the super-system. As a "sundering strike" the goal is to separate the operational system into discrete compact tactical segments, then isolate, encircle, and destroy those segments.[62]

The second aspect of operational maneuver involved "simultaneity," which Soviet theoreticians believed could yield synergy. The holding actions of a frontal echelon, combined with an air-mechanized *desant* echelon (operating at the extreme end of the operational depth) and a mobile maneuvering echelon, would achieve the effect.[63] By operating in the areas behind the enemy's front lines and achieving success in depth, the Soviets expected to achieve enemy paralysis. Imbedded in the idea of achieving synergy were three design features: tactical synthesis (the creation of combined

arms units to overcome battlefield complexity), synchronization (achieved through a common consciousness shared by commanders of all echelons), and finally, coordination (communications, briefings, and counsels focused on achieving the linear aspects of interaction).[64] The importance of this architecture is that the Soviets designed a concept that addressed both the linear and nonlinear aspects of war. By forming combined arms teams, the Soviets also created a "fractal structure" that was adaptive to the changing nature of combat. The idea of a shared consciousness responded to the cybernetic aspects of interaction by way of feedback. Lastly, coordination design acknowledged that linear processes were still very much within the nature of war and required attention, albeit within the greater environmental context.

The third aspect of operational maneuver was momentum. It rested on a concept of velocity, articulated in terms of depth, time and mass, and relation to striking power, which one produced by attacking the system at every point in time in the course of the operation.[65] Much like synergy, momentum comprised four design elements, captured by the expression "tempo of the operational advance": depth (provided the special setting for the operation), resistance (represented attrition and affected momentum directly through slowing of velocity or reducing mass), mass (achieved through the echeloned structure that ensured the succession of strike and increased the pace of operations), and operational mobility (the key to preserving striking mass, defined by tactical velocity, logistical support and successive operations).[66] From a nonlinear perspective, momentum helped to overcome the sensitivity of the enemy system. By adopting an offensive approach that achieved paralysis quickly and in depth, momentum prevented the enemy system from mutating. Simply put, one denied the opposing system time to respond to the attacker's interaction. To the extent that one side could affect multiple subsystems simultaneously and in depth, that side could also achieve paralysis all the faster. Once again, however, the Soviets did not turn their backs on linearity. "Resistance" acknowledged the interaction of the offense and defense, as well as their potentially linear paradox: culmination. Similarly, the recognition of logistical support and successive operations suggested the need for sequential operations.

Allied to all of this was an innovative approach to command and control as an integral part of operational maneuver. The Soviets addressed command and control by recognizing that attrition and randomness were the principle factors that determined the character of the tactical level.[67] Thus, they believed, they could overcome friction through execution of battle drill: simple, immediate, and effective responses, implemented by the tactical decisionmaker. Command and control at higher levels included an approach comprising the designation of the operational aim, immediate mission, and subsequent mission. This was an attempt to galvanize the striking echelon's unity of effort and in some respects served as a "mission type order." Nevertheless, despite this admittedly scientific approach, the principal quality required from a Soviet operational director was still creativity; and the setting of command and control systems at the Army and Front levels called for planned improvisation.[68] So, it was that the Soviets clearly articulated both the type of decision making required at each major echelon and the necessity to transmit and translate instructions between echelons.

Finally, the Soviets did not limit their overall approach merely to paralysis. They expected the strike echelon to "encircle" and destroy components of the enemy defense.[69] As an example, the isolation and destruction of the enemy's air defense system augmented dislocation and facilitated airborne operations, thus exploiting the connectivity between subsystems. The nonlinear implications of this idea suggest that, while non-lethal or precision strikes may achieve an asymmetrical result, those same efforts may also require destruction to yield the complete psychological, morale breaking, if not incapacitating effect at the highest levels.

Nonlinear Implications for Joint Doctrine.

One can trace the American approach to jointness at least as far back as Winfield Scott's sea and land operations in the Mexican War.[70] However, *cooperation* not *command* was the order of the day. Even the U.S. Army Air Forces in World War II, at best, *coordinated* its efforts with ground maneuver.[71] Taken to the extreme, U.S. Air Force operations in Vietnam occurred not under the control of a Joint Force Air Component Command (JFACC), but were rather divided

by a convoluted "Route Package" system which separated control between Commander in Chief U.S. Pacific Command (CINCPAC) and Military Assistance Command, Vietnam (MACV).[72] All of this should not be surprising. From a purely spatial dimension perspective, the laws of physics and limitations of weapon systems historically prevented services from interfacing except on the margins. Only in recent years, notably during Operation DESERT STORM, has the convergence of technologies yielded a more coherent meshing of service areas of operations into a truly Joint Theater of Operations. Like it or not, U.S. military history is one of compartmentalized excellence, marked today by the world's premier Army, Navy, Air Force and Marine Corps. However, outright merger is not an answer. Unlike the Ford Motor Company, which from 1958 to 1960 attempted to combine the best design qualities of several popular cars into a distinctively new model, the United States Department of Defense cannot afford to create a "Joint Edsel."

Current Joint doctrine describes Joint warfare as "team warfare."[73] Like most metaphors, the term "team" can be misleading. In war, unlike sports, only the victor can enforce the rules, while a true genius makes his own. Likewise, in today's vernacular the word "team" can represent a collection of specialists working together. While this may translate easily into a vision of a multi-service organization working with a unity of effort under the direction of a visionary coach, it is in the end a linear approach to warfare, one not up to the demands of the future. From a physical standpoint the dictionary describes the word Joint as "the configuration by which two or more things are joined."[74] But is a collection of disparate organizations bound together to achieve a common purpose the type of force needed for the future? Perhaps more importantly, is U.S. Joint doctrine sufficiently strong, yet elastic enough to ensure both unified and flexible operational employment?

The answer to both questions will remain negative as long as current Joint doctrine reflects a pedestrian understanding of nonlinearity. By limiting the comparison of linearity and nonlinearity to the confines of geography, Joint doctrine fails to capture a holistic approach to warfare, one of dynamic interaction between systems and subsystems. Instead, Joint Publication 3-0 describes nonlinear operations in simplistic and misleading terms as an objective

oriented approach, prosecuted simultaneously along multiple lines of operations from selected basis.[75] Jomini's influence lives on!

Theory and Strategy—The Clausewitzian Litmus.

Few strategists view the theory of war in the same fashion; perhaps it is due to the nature of the subject. From a broad U.S. perspective, thoughts about war are largely borrowed, sometimes plagiarized, from European sources. Theoretical sound bites of past masters sprinkle across the pages of U.S. doctrinal publications; some ideas are transient, others abide. Clausewitz appears to have the greatest impact on current doctrine, perhaps because he wrote in the general rather than the specific, or because his work continues to be freshly interpreted. What is comfortable about Clausewitz is that his ideas appear to fit Americans like a glove. The supremacy of political authority over the military, the will of the people, and quick, decisive battle reflect not only U.S. society, but how the American people like to fight. Yet, Clausewitz also clearly underlined the role of nonlinearity in the doctrinal approach to warfare. In this regard, there are three fundamental lessons to be learned from the Prussian philosopher and nonlinearity: first: theory should avoid prescriptive doctrine - leaders must develop intuition; second: every military act will have political consequences—one cannot isolate variables; and lastly, adherence to unchanging principles is dangerous—what matters is adaptability.[76]

Taken as a whole, there has been a mixed American reaction to Clausewitz's nonlinear doctrinal lessons. Few would accuse the United States of being dogmatic in the application of Joint doctrine, perhaps because that doctrine is the result of interservice compromise and therefore by its very nature nonprescriptive. Conversely, to the degree that U.S. forces continue to train under realistic conditions, combat leaders develop intuition. But this is primarily at the tactical level. As to the political consequences of military operations, Joint doctrine does articulate the process of developing strategy and recognizes that nations fight wars for political goals. But it falls short of recognizing the political consequences of military operations.[77] And with respect to unchanging principles, the one thread of continuity that does run through Joint and Service doctrine is that

of the "principles of war." Although a recent addition to some services' lexicon, they serve as "the enduring bedrock of US military doctrine," the principles that "guide warfighting at the strategic, operational, and tactical levels."[78] This is assuredly more than Clausewitz had in mind, since he viewed principles as useful in the study, not prosecution of war. As for their applicability from tactical to strategic levels, the current doctrine falls far short of applying Clausewitz's lessons of nonlinearity. Joint Publication 3-0, for example states that "[t]he purpose of maneuver is to place the enemy in a position of disadvantage through the flexible application of combat power."[79] Such a positional, kinetic approach may well apply at the tactical level; but it does little justice to the nonlinear aspects of seeking influence at the strategic level.

Incorporating the lessons of nonlinearity into the current Joint doctrine does not represent an easy task. Colin Gray argues that war is by its very nature complex and therefore offers complex solutions. He suggests that there are (at least) seventeen dimensions of strategy. More importantly he argues that these are merely "distinctive dimensions of a whole entity...each influences the other."[80] He then groups the seventeen under three headings: people and politics, preparation for war, and war proper, a holistic approach that in many ways shares portions of Warden's Five Ring assessment. But Gray's approach goes well beyond the linearity of Warden's concept, emphasizing instead that war is a human activity and can therefore be input sensitive. Strategy is eternal because it reflects human nature; likewise, perception of the past as much as the facts themselves shape the lessons of historical experience. This is a significant argument because the consideration of human interaction quickly moves the dimensions of strategy beyond the physicality of linear warfare, to the sensory, intuitive, cognitive, cultural, and the metaphysical that plays such an important role in the nonlinear approach. Suddenly the nature of conflict appears far more abstract, than the predominately physical, linear character of Warden's model.

Sensitivity, Variables, and Interaction.

Since nonlinearity represents recognition of the holistic nature of war, a corresponding American approach to Joint doctrine should

focus on interaction, rather than simply cause and effect. Future war may be distributed, nodal, and geographically isolated. It may just as well be asymmetrical, socially imbedded, and motivated by abstract religious or political doctrine. It is not possible from a nonlinear perspective to separate these variables from each other or from their context. Above all, nonlinearity captures a system's (or strategy's) outcome in response to inputs. Even small differences in these inputs can produce entirely different outcomes, some even approaching randomness, for the system. For example, if the United States adopts a strategy of forward presence punctuated by power projection, its strategists might well remember that it is, in the end, an offensive doctrine prosecuted in someone else's back yard.

A possible counter to such an approach, as an example, is found in the American Revolution, where the British fought in the southern colonies against a partisan force led by Nathaniel Greene. That conflict was first and foremost a mismatch of objectives. On the British side was the *limited* objective of achieving stability in North America. From the colonial perspective, completely eliminating British power in the colonies was their *unlimited* objective.[81] The British, seeking sympathetic colonists, moved their operations to the south and applied a system of outposts whereby they defended key "nodes."[82] Meanwhile, patrols secured the countryside, often in a heavy handed manner. Backed by an unmatched fleet, British forces could deploy flexibly in response to threats. Moreover, they could chose the time and place of their assault and lines of operation. When regular Continental forces deployed to assist Greene, the British defeated them handily. However, what the British could not do was create a safe and secure environment for sympathetic colonists or, for that matter, themselves.[83] Over time, British forces simply exhausted themselves from pursuing a partisan force that avoided battle, unless to the patriots' advantage.

The power of this vignette is that, although the British believed they possessed freedom of action, secure bases, the capability to mount simultaneous operations and both better command and control and sustainment than the patriots, they failed to assess accurately the nature of their interaction. British reprisals inflamed the populace and eroded support for the crown, achieving just the

opposite effect from the example of security for which they had hoped. Their chosen "system" was sensitive to the act of reprisals and generated an unexpected outcome. Moreover, as the nature of the war changed, they failed to adapt to the new environment. The British, while appearing nonlinear, were in point of fact, just the opposite. Nonlinearity therefore is more than simply a spatial or temporal approach to war; it is holistic in the purest sense of the word. It captures the idea of *cognition,* in many ways, as Clausewitz described *understanding* the nature of the war.

Turning to strategy as a system, the British naval strategist Julian Corbett defined it as "the art of directing force to the ends in view." He also defined the ends by their object: "Major Strategy, dealing with ulterior objects: Minor Strategy, with primary objects."[84] While admittedly current U.S. doctrine captures these ideas as "strategy" and "operational art," the significance of this approach lies in the recognition that Major Strategy deals with the "whole resources of the nation for war. It is a branch of statesmanship. It regards the Army and Navy as parts of one force, to be handled together; they are instruments of war."[85] Corbett's perspective was that achieving a common understanding of a theory of war drives one to become a single force. In other words education leads one to common conclusion, and obviates the need for such externally driven mandates as the Goldwater-Nichols Act.

This is not to suggest that America's future envisions a single military service as in Canada, but it is also more than simply the lashing together of a guild of services while proclaiming unity. Such action would serve no more purpose than covering the services in a doctrinal fig leaf. Underneath they would remain theoretically naked and alone, arguably as they have always been. The implication of embracing a holistic theory is that a top down understanding of interaction of inter and intra service relationships will ultimately yield a broader, more flexible approach to warfare, one that includes a unity of effort among all elements of national power. The Joint approach must apply a "common grammar," but remain creative in its dialogue. For the United States, the time has come to develop a theory of war for a new age and with it, a common "Joint" grammar.

Feedback, Change, and Causality.

Attempting to design a Joint doctrine that incorporates the ideas associated with nonlinearity involves as complete an understanding of the nature of war as is humanly possible. As Gray asserts, it is a complex business. Nevertheless, identifying all the possible dimensions (though situationally dependent) is the first step toward addressing *how* the dimensions interact. Next, having identified the dimensions, the construction and position of positive and negative feedback loops would provide continual information at all levels of war throughout the continuum of the conflict. Such a nonlinear approach is essential because of the need to continually "sample" information to determine the nature of interaction between each strategic dimension and across the system as a whole. This is especially important in attempting to overcome friction, since the ability to recognize the nature and possible impact of that phenomenon, and modify operations and future plans accordingly, is essential to both relevance and success.

Feedback, as a process, means identifying intelligence requirements that are more than simply linked to decision points. They must be dimensionally evaluative. As the nature of the conflict changes, the goal must be to recognize change and then foresee its possible permutations across relevant strategic dimensions. This may take time and run counter to the presumed nature of "Rapid Decisive Operations." Given the variety of dimensions, their often nonmilitary nature and the complexity of dimensional interaction, the sources of information must be broad. Lateral dialogue between services, mediums, agencies, and allies, will be essential to situational awareness and environmental understanding. There is, of course, the potential for friction in such a complex methodology; but friction, as Clausewitz long ago pointed out, is a fact of life in any approach to war. More importantly, the relatively small frictional advantage provided by nonlinear feedback can have enormous outcomes in combat. But any advantage relies, in particular, on the constraints imposed by human physical and cognitive limits, particularly those dealing with informational uncertainties and unpredictable differences resulting from spatially and temporally dispersed information and most importantly, from the innate

structural nonlinearity of the combat process.[86]

From a structural perspective, then, a nonlinear approach to war will yield more than simply the superficial integration of services. Developing a common theory of war, from which service strategies evolve, is the first step of what will arguably be a long term process. Current Joint doctrine is one of compromise and committee work: a collection of principles, fundamentals, tenants, values, and considerations that obfuscate the purpose of achieving shared belief. Joint doctrine requires a common, not parallel, exploration of future war, in which a "single force" seeks the capability to attack the physical, mental and moral aspects of an opponent, in pursuit of clearly articulated policy objectives. Although each service contains the resident expertise to operate and dominate a particular dimension, technology (if not theory) is driving the services increasingly to share the battle space. The future debate of roles and missions is long over- due, but will be futile without a common understanding of war, the essence of Joint doctrine.

Human beings will always reach a limit of cognitive capability. To the extent that a new generation of leaders is more attuned to the dynamic, interactive nonlinear nature of war, the more likely it will be both mentally creative and adaptable. Nevertheless, limits in individual ability, experience, and training will always induce friction in the force. That the military may have to cooperate with other agencies or allies in the future will only further limit the shared corporate consciousness. Distributed spatial and temporal operations will only further exacerbate the friction induced by differences in comprehension and capability. That is the nature of the world. To the extent that U.S. forces can recognize such challenges, develop an awareness of potential sources of friction, and monitor the interaction of systems within the environment, the Joint force will ultimately become a more adaptive, effective, and durable organization.

Conclusion.

Centuries of linear thought continue to influence U.S. military doctrine, education, and culture. Nonlinearity offers the American armed forces the opportunity to reconsider how to fight, how to

organize, and most importantly how to think about the challenges of future war. The Soviets, faced with perceived threats and a changing world nearly a century ago, embarked on a course which propelled them to the forefront of innovative theory, manifest as doctrine, structure, education, and procurement. Their journey was replete with controversy, clashes of professional ego, and intense political dialogue. Ultimately, Stalin suppressed these ideas through purge, only to resurrect them again in the face of *Blitzkrieg*. Today, developing a holistic theory that captures the contemporary environment, with all its inherent complexities, will not be easy, but it is just as possible. Embracing new thinking offered by nonlinearity, while continuing to incorporate the "tried and true" will potentially change the entire U.S. military culture, from training and education, doctrine and equipment, to interagency and multi-national cooperation. But as Colin Gray warns, "Change in form is ever confused with change in kind. Possible revolutions in the character *of* warfare are mistaken for revolutions in the nature of, or even *from*, warfare."[87]

The concept of nonlinearity involves more than geometry; it is recognition of the dynamic, interactive nature of warfare and the complex connectivity of the human dimension. It is not simple. Neither is war. But what nonlinearity provides is a construct for understanding the changing character of war and allowing for the recognition of friction before reaching culmination. The result is *intuition* to recognize the implications of the changing situation and *adaptability* to allow for appropriate action. The achievement of success in both these abstract capabilities depends on the nature of education, training, procedure, and finally structure. In that regard nonlinearity offers a way to leverage the best of service cultures and capabilities, while providing the opportunity to discard centuries of unwanted baggage. In the end, however, the U.S. military's ability to understand the environment, its interaction within it and the changing nature of conflict until conclusion, will ultimately determine its success.

As America comes to grips with its new found role of global "hyper-power," the international stage will change with new, yet unwritten dramas unfolding. New players will join the improvisation, bringing with them challenge and intrigue, interests and alliances. And above it all, "Tyche" will observe, like an interactive audience,

whose fickle attention changes with the season and fashion. Balancing her capricious moods and unpredictable nature will require a presence of mind attuned to the nature of the environment, the actors, and the audience. But that is what distinguishes the great from the popular, and in the end determines who remains at center stage, taking the final bow.

ENDNOTES - CHAPTER 2

1. John DeFoor, ed. "Intro," "Joint Operational Warfighting," Norfolk: U.S. Joint Forces Command, August 15, 2002, p. 1.

2. *Ibid.*, p. 4.

3. In the original Greek version of *The Peloponnesian War*, Thucydides refers to "Tyche" to explain that which by the ordinary course of events could not be predicted. Tyche was the Greco-Roman personification of fortune, chance, and luck. With a ball she represented the various unsteadiness of fortune—unsteady and capable of rolling in any direction. Williamson Murray, "Presentation to Advanced Strategic Arts Program," lecture, Carlisle Barracks, PA, U.S. Army War College, January 6, 2003, cited with permission of Dr. Murray. Thus, Thucydides introduces the idea of nonlinearity in his history by way of mythological metaphor. See Michael Jordan, *Encyclopedia of Gods*, New York, 1993, p. 269.

4. "Clausewitz displays an intuition concerning war that we can better comprehend with terms and concepts newly available to us: *On War* is suffused with the understanding that every war is inherently a nonlinear phenomenon, the conduct of which changes its character in ways that cannot be analytically predicted." Alan Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," *International Security*, Vol. 17, Winter 1992, p. 60.

5. "Plato's theory of ideas conceived of an ideal world of forms, separate from the earthly sphere, in which the paradigms of worldly objects resided." Chris Rohmann, *A World of Ideas*, New York, 1993, p. 295.

> According to the paradigm model, Forms are just paradigmatic instances. Thus, for example, Equality is simply the perfect instance of equality. Equality is somehow perfectly equal, and all other things that are equal are approximations of Equality, perhaps in the same way that only the standard meter stick in Paris is exactly a meter long, while all other meter sticks approximate its length. Something is a meter long just insofar as its length sufficiently resembles the length of the standard meter stick in Paris. Similarly, something is beautiful just insofar as it

sufficiently resembles the Form of Beauty.

Dion Scott-Kakures, *History of Philosophy*, New York, 1993, p. 36.

6. Rohmann, *A World of Ideas*, p. 296. Also see Thomas Kuhn, *The Structure of Scientific Revolutions*, Chicago, 1962.

7. Dava Sorbel, *Galileo's Daughter: A Historical Memoir of Science, Faith and Love*, New York, 1999, p. 221. The complete title was "*Dialogue of Galileo Galilie, Lyncean Special Mathematician of the University of Pisa And Philosopher and Chief Mathematician of the Most Serene Grand Duke of Tuscany. Where, in the meetings of four days, there is discussion concerning the two Chief Systems of the World, Ptolemaic and Copernican, Propounding inconclusively the philosophical and physical reasons as much for one side as for the other.*"

8. *Ibid.*, pp. 50-53.

9. Rohmann, *A World of Ideas*, p. 296.

10. *Ibid.*

11. For a more detailed study, see David Jablonsky, *Paradigm Lost? Transitions and the Search for a New World Order*, Carlisle Barracks, PA, 1993.

12. "Military innovations that have the greatest influence are those that change the context within which war takes place." Williamson Murray, "Innovation: Past and Future," *Military Innovation in the Interwar Period*, New York, 1996, p. 305.

13. Michael Howard, *Clausewitz*, New York, 1983, p. 8.

> His master, Prince August, was given command of a battalion, and Clausewitz accompanied him to the battlefield of Auerstadt. There he participated in his first great Napoleonic battle and in the catastrophic retreat that followed; an experience so shatteringly different from the tedious marches and maneuvers of his boyhood that it was hard for him to comprehend them both as belonging to the single activity, war.

14. Jehuda L. Wallach, *The Dogma of the Battle of Annihilation*, Westport, CT, 1986, p. 312.

> If the direct question is put whether there was any influence of the theories of Clausewitz and Schlieffen on the German conduct of two world wars, the answer is in the affirmative. There is no doubt that Schlieffen's attitude of conducting war as a purely military

affair provided a decisive contribution to failure. Closely linked with this blunder was Schlieffen's obsession with the enemy's annihilation by means of encirclement as the only possible strategic solution. On the other hand the fact that the Germans had not understood Clausewitz' philosophy, and therefore had never heeded his theory or the practical implications to be derived from it, was without a doubt a vital factor in Germany's defeat.

15. Murray, "Innovation: Past and Future," pp. 314-315.

16. Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," p. 61.

17. Henry W. Halleck, *Elements of Military Art and Science or, Course of Instruction in Strategy, Fortification, Tactics of Battles, etc; Embracing the Duties of Staff, Infantry, Cavalry, Artillery, and Engineers,* West Port, CT, 1971. As a Captain in 1846, Halleck translated and edited Henri Jomini's *Vie politique et militaire de Napoleon,* under the title cited above. This document was influential in the professional education of Army officers prior to and during the American Civil War.

18. U.S. Joint Staff, "Doctrine for Joint Operations," Joint Publication 3-0, Washington, DC, 2001, p. GL-12.

19. William Owens, *Lifting the Fog of War,* New York, 2000, pp. 13-15, 22-24.

20. Consider the U.S. military's attempt to capture and transfer knowledge. "In the traditional knowledge-acquisition approach, knowledge engineering involves transferring and transforming a subject matter expert's (SME) knowledge into a form usable by an intelligent agent. A skilled knowledge engineer ordinarily performs this highly technical process, which is time consuming, error prone, and inefficient. An alternative approach is to use a computer-based learning agent, which can acquire and maintain the SME's knowledge with only limited assistance from a knowledge engineer." Antonio M. Lopez, *et al.,* "Clausewitz Meets Learning Agent Technology," *Military Review,* Vol. LXXXII, No. 6, November-December, 2002, p. 2.

21. Ron Zemke, "Systems Thinking," *Training: The Human Side of Business,* Vol. 38, No. 2, February, 2001, pp. 40-41. Zemke argues that the "systems approach" is in transition from one that is mechanistic to counterintuitive, which requires new thinking.

22. John A. Warden III, "The Enemy as a System," *Airpower Journal,* Vol. 9, No. 1, Spring 1995, pp. 40-55.

23. *Ibid.,* p. 49.

24. Michael Howard and C.R. English, *Report of the Committee of Inquiry Into Service Colleges*, July 29, 1966, quoted in Michael Brock, "Michael Howard's Contributions to Historical Studies," *War, Strategy, and International Politics. Essays in Honour of Sir Michael Howard*, eds., Lawrence Freedman, Paul Hayes, Robert O'Neill, Oxford, 1992, p. 198.

25. Donella Meadows, "Whole Earth Models and Systems," *Co-Evolution Quarterly*, Summer, 1982, pp. 98-108, quoted in Margaret J. Wheatley, *Leadership and the New Science*, San Francisco, 1999, p. 10.

26. Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," p. 62.

27. Scott-Kakures, *History of Philosophy*, p. 3.

> Anaxamines appears to have thought that we ought not postulate the existence of anything that is not required to explain the world and its phenomena, especially when the postulate is unobservable. With this we get what looks like an explicit appeal to two principles that will recur in one form or another throughout the history of Western philosophy: the principle of the priority of observation and the principle of ontological simplicity.

28. Zemke, "Systems Thinking," p. 40.

29. Wheatley, *Leadership and the New Science*, pp. 3-4.

30. Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," p. 77.

31. *Ibid.*, p. 64.

32. Barry D. Watts, *Clausewitzian Friction and Future War*, Washington, 1996, p. 106.

33. "If the system is plotted in multiple dimensions in phase space, the shape of chaos, the strange attractor, gradually becomes visible . . . As the system's chaotic wanderings are plotted over time, the system never repeats its behavior exactly, the attractor reveals itself. This butterfly or owl-shape strange attractor reveals the order inherent in a chaotic system." Wheatley, *Leadership and the New Science*, pp. 116-117.

34. The mitrailleuse was "an early machine gun mounted on an artillery carriage, and similar to the Gatlin gun of the American Civil War. The mitrailleuse was expected to give the French a great technological advantage over the Germans,

but was kept so secret that few French commanders had any idea how to get the most out of it. In the Franco-Prussian War, the weapon was kept back with the artillery and usually out of range of the enemy." Larry D. Addington, *The Patterns of War Since the Eighteenth Century*, Bloomington, IN, 1984, p. 98.

35. "[Field Marshal Archibald Montgomery-]Massingberd was an out-and-out opponent of serious innovation, his successor Field Marshal Cyrill Deverell was little better." Murray, "Innovations: Past and Future," pp. 20-22.

36. *Ibid.*, pp. 34-45.

37. Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," p. 64.

38. The object of war is specifically "to preserve one self and destroy the enemy," to destroy the enemy means to disarm him or "deprive him of the power to resist," and does not mean to destroy every member of his forces physically. Mao Tse-tung, *Selected Writings of Mao Tse-tung*, Peking, 1967, p. 230.

39. Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, trans. and eds., Princeton, 1976, pp. 78.

40. *Ibid.*, p. 75; and Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," pp. 65-66.

41. Clausewitz, p. 87.

42. Mao, *Selected Writings of Mao Tse-tung*, p. 198.

> The war is a contest between these characteristics. They will change in the course of the war, each according to its own nature, and from this everything else will follow. These characteristics exist objectively and are not invented to deceive people, they constitute all the basic elements of war, and are not incomplete fragments, they permeate all major and minor problems on both sides and all stages of the war, and they are not matters of no consequence"

43. Clausewitz, p. 89; and Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," pp. 67-68.

44. Regarding Hume, "Our ideas about the world are purely the result of the mind's association and ordering of impressions according to 'custom' or 'natural beliefs'-our habitual ways of thinking." Rohmann, 186-187.

45. Wheatley, *Leadership and the New Science*, pp. 64-65.

46. Clausewitz, pp. 148-149. See also Scott-Kakures, *History of Philosophy*, pp. 213-215.

47. "Hume is saying that because we are so used to seeing objects behave in certain kinds of ways, we think we could have known how they would behave without ever having witnessed their behavior. But that is simply not the case. When presented with new objects or circumstances, we do not really know what to expect." Scott-Kakures, *History of Philosophy*, p. 215. See also Clausewitz, *On War*, p. 139.

48. William Morris, ed. *The American Heritage Dictionary of the English Language*, Boston, 1976, p. 1336.

49. Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," p. 72.

50. Wheatley, *Leadership and the New Science*, p. 80.

51. Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," p. 73.

52. The ideas in this paragraph are based on remarks made by a speaker participating in the Commandant's lecture Series. For the metaphor of a game of cards, see Clausewitz, p. 86.

53. Harry G. Summers, *On Strategy*, New York, 1995, pp. 184-185.

54. "Whenever a self-organizing system experiences any amplification process, change is at hand. If the amplifications increase to the level where they destabilize the system, the system can no longer remain as it is. At this moment, the system is at a crossroads, standing poised between death and transformation." Wheatley, *Leadership and the New Science*, pp. 87-88.

55. Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," pp. 75-76.

56. "Expressed in the language of nonlinear dynamics, Laplace's presumption is that human ignorance prevents us from completely eliminating tiny differences between our representations of phenomena and their actuality." Watts, *Clausewitzian Friction and the Future of War*, p. 115.

57. Naveh goes so far as to decree that the Coalition victory in Operation DESERT STORM was, in practice, the fruition of Soviet concepts. Namely that

Allied forces held the Iraqis in position, while a strike echelon penetrated the defenses deeply. The operation was augmented by heliborn operations and air support and supported by a deception plan (Marines off shores). The synergistic effect of Coalition operations fragmented the Iraqi defenses and totally disrupted their ability to maintain a cohesive strategy. Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, London, 1997, pp. 323-331.

58. "This threat [the perceived proletarian and bourgeois struggle] created a need to study future war [*budushchaia voina*], not as an abstract proposition but as a foreseeable contingency. In the 1920s the study of past campaigns, current trends in weapons development, and force structure requirements coalesced around the concept of operational art [*operativnoe iskusstvo*]." Jacob W. Kipp, *Mass, Mobility, and the Red Army's Road to Operational Art, 1918-1936*, Fort Leavenworth, KS, 1988, p.16.

59. Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, pp. 323-331.

60. *Ibid.*, p. 214.

61. Clausewitz, pp. 572-573.

62. Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, pp. 214-215. Also see G. Isserson, *Operational Prospects for the Future*, Vol. I, *Operational Art, 1927-1964, The Evolution of Soviet Operational Art 1927-1991: The Documentary Basis*, Harold S. Orenstein, trans., London, 1995, p. 83: "Therefore, the penetrative force of a deep attack acquires decisive significance for the development of modern operations. The potential for maneuver development of operations depends now not so much on rapidity of the attack, but on the force of the attack."

63. Naveh, 216. Also see Vasiliy Yefisovich Savkin, *The Basic Principles of Operational Art and Tactics, A Soviet View*, trans. and published under the auspices of the United States Air Force, Moscow, 1972, p. 216: "A deep deployment of shock groupings in the presence of major mobile *soyedineniya* in the second echelon of fronts, tank armies) was supported by strong aviation. Thus the shock groupings possessed great penetrating force and an ability to affect the enemy to a great depth and to build up forces in the course of an operation. This provided for high rates of advance."

64. Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, p. 223.

65. *Ibid.*, p. 217.

66. *Ibid.*, pp. 217-218. Also see Isserson, *Operational Prospects for the Future*, p. 84: "Therefore, above all, *the struggle to exploit all capabilities* lies at the basis of conducting modern military operations. And this means *speed.* Thus, speed will become a property organically inherent in the nature of modern operations."

67. Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, p. 232. Also see Savkin, *The Basic Principles of Operational Art and Tactics (A Soviet View)*, p. 275:

> Increasing importance was assumed by control on the part of commanders-in-chief (commanders) or staff officers. A plan of control began to be compiled. Under it were checked: timeliness of obtaining missions and correctness of troop understanding of missions obtained, course of preparation of the operation and combat operations, readiness of troops for an attack, organization of interworking, knowledge of the enemy, material support to troops and other questions. One of the basic methods of control were flights of aircraft with the aim of checking the true status of friendly troops on the battlefield and the organization of concealment in the initial position.

68. Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, pp. 235-236.

69. *Ibid.*, p. 215. Also see Kipp, *Mass, Mobility, and the Red Army's Road to Operational Art, 1918-1936*, p. 24: "The *Vremennyi polevoi ustav RKKA 1936* with its emphasis upon the 'decisive offensive on the main axis, completed by relentless pursuit' as the only means to bring about total destruction of the enemy's men and equipment underscored Tukhachevsky's twin themes of combined arms and mechanized forces."

70. For more information concerning Winfield Scott and the origin of U.S. land sea cooperation in the Mexican campaign, see John S. D. Eisenhower, *Agent of Destiny: the Life and Times of General Winfield Scott*, Norman, OK, 1997.

71. The ideas in this paragraph are based on remarks made by a speaker participating in the Commandant's Lecture Series.

72. "This fragmented approach stood in stark contrast to the most basic beliefs about the employment of air power going back to World War II and before." Benjamin S. Lambeth, *The Transformation of American Airpower*, Ithaca, NY, 2000, pp. 32-34.

73. U.S. Joint Staff, "Joint Warfare of the Armed Forces of the United States," Joint Publication 1, Washington, DC, 2000, p. viii.

74. Morris, *The American Heritage Dictionary*, p. 706.

75. Joint Pub. 3-0, p. IV-9.

76. Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," pp. 81-82.

77. Joint Pub. 3-0, p. III-24.

78. Joint Pub. 1, p. III-7; and Joint Pub. 3-0, p. A-1. Also see Wallace P. Franz and Harry G. Summers, *Principles of War: The American Genesis*, Carlisle Barracks, PA, 1981, p. iii: "In 1934 when [Colonel Johnston's article] was published, the principles of war had dropped from sight and Colonel Johnston was making the case for principles of war *per se* as well as recommending a particular set of principles. Drawing from his own experiences as well as from the works of Colonel Fuller, particularly his 1925 work, *The Foundations of the Science of War*, Colonel Johnston reduced the 'science of war' to what he believed to be its essence: *Objective, Means* and *Control*."

79. Joint Pub. 3-0, p. A-1.

80. Colin S. Gray, *Modern Strategy*, New York, 1999, pp. 24-43. Grey identifies many dimensions of strategy and organizes them into three groupings: *People and Politics*—people, society, culture, politics, ethics, *Preparation for War*—economics and logistics, organization, military administration, information and intelligence, strategic theory and doctrine, technology, and *War Proper*—military operations, command, geography, friction, chance and uncertainty, adversary, time.

81. Russell F. Weigley, *The American Way of War*, Bloomington, IN, 1973, pp. 18-19.

82. *Ibid.*, p. 26.

83 "Without forcing Greene to battle, he could not prevent the Revolutionaries from resuming their reconquest of the South everywhere except where the British field army stood." *Ibid.*, pp. 34-35.

84. Julian S. Corbett, *Some Principles of Maritime Strategy*, Annapolis, MD, 1988, p. 308.

85. *Ibid.*, p. 308.

86. Watts, *Clausewitzian Friction and Future War*, p. 132.

87. Colin S. Gray, *Modern Strategy*, New York: Oxford University Press, 1999, p. 364.

CHAPTER 3

THE BEST OFFENSE IS A GOOD DEFENSE: PREEMPTION, ITS RAMIFICATIONS FOR THE DEPARTMENT OF DEFENSE

Colonel Daniel L. Zajac

> If we wait for threats to fully materialize, we will have waited too long . . . . Our security will require transforming the military you will lead—a military that must be ready to strike at a moment's notice in any dark corner of the world. And our security will require all Americans to be forward-looking and resolute, to be ready for preemptive action when necessary to defend our liberty and to defend our lives.[1]
>
> George W. Bush

In the wake of al-Qaeda's 9/11 attacks on the World Trade Center and Pentagon, America's security policy underwent significant changes, particularly in regard to anticipating the acts of terrorists and their supporters. On September 14, 2001, Congress authorized the use of force against those that planned, or perpetrated the 9/11 attacks as well as those who harbored the 9/11 terrorists.[2] The President, in his January 29, 2002, State of the Union address, warned that the United States would not allow aggressors to strike first.[3] He reiterated his case for preemption in a commencement address to the West Point Class of 2002.[4] Finally, the National Security Strategy (NSS) of September 2002 included preemption as a course of action.[5]

Anticipatory defense is not new to American strategic thinking. However, thinking about preemptive or preventive strategies and executing them are two different things. While reserving the right to preempt or prevent, the United States has rarely exercised those options. In the few cases of U.S. preemption, its operations have been small in scale, for limited objectives, often clandestine, and usually followed some provocative act. American leaders generally considered the idea of striking first incompatible with their ideals and thus not a legitimate course of action.[6]

The President's strategy is different, because it explicitly declares that the United States will execute preemptive military operations when necessary. His strategy includes preventative actions to eliminate threats before they emerge—in other words before those threats are imminent.[7] He has implied that the United States, in situations short of last resort, might employ preventative attacks or preventative war. Moreover, his statements suggest that America will hold other nations responsible for the acts of terrorists operating within or from their territory and that it reserves the option to preempt or prevent within those states. While other nations have employed anticipatory strategies, the United States has never before declared such a doctrine. The President has added a new course of action to America's National Military Strategy. Consequently, its armed forces must respond.

This chapter seeks to identify the implications of the President's emerging strategy for the Department of Defense (DoD). Specifically, it employs just war theory and strategic military theory to model decision criteria for anticipatory self-defense, while utilizing the ends-ways-means paradigm for strategy analysis. After offering several definitions, the chapter will explore the theoretical foundations of anticipatory defense. A brief survey of historical examples of anticipatory defense sets the stage for analysis. After identifying three likely preemption types, the chapter addresses means, recommendations for DoD, and the threats and risks of such a policy. While the author does not intend to justify anticipatory self-defense, he does conclude that there are instances that justify such action.

DEFINITIONS

Anticipatory self-defense or striking an enemy before he can consummate an act of aggression, will take one of four forms. The fundamental discriminators in these forms are the concepts of imminent verses inevitable threats and attacks verses war. For the purpose of argument, this chapter employs the following definitions.

Preemptive Attack: An attack or raid initiated on the basis of incontrovertible evidence an enemy attack is imminent.

Preemptive War: A war initiated on the basis of expectation and/or evidence that an enemy attack is imminent.

Preventative Attack: An attack or raid initiated on the belief that the threat of an attack, while not imminent, is inevitable, and that to delay would involve great risk.

Preventative War: A war initiated on the belief that armed conflict, while not imminent, is inevitable, and that to delay would involve great risk.[8]

Unfortunately, President Bush, as well as advocates and critics of his policy, often mixes all four forms into the term "preemption" without drawing needed distinctions. Since the word "imminent" appears in each form, it is worth reviewing the definition of imminent: ". . . to project, threaten, . . . ready to take place; . . . hanging threateningly over one's head . . . danger of being run over . . . "[9]

Temporally, imminent appears to be a subjective call. For example, combat forces set in attack positions could remain in such a status for long periods of time. Thus, some divining of the opponent's intent is necessary. Nonetheless, it helps to distinguish between forms of anticipatory defense. An imminent threat, ready to take place, is closer in time than an inevitable one. The imminent threat has immediate ramifications, if left unchecked. The 2002 NSS states, "[The United States] must adapt the concept of imminent threat to the capabilities and objectives of today's adversaries."[10] This statement represents an effort to push the time horizon associated with imminent to a more distant point in time to accommodate preventative action. Essentially, what the NSS indicates is the intent to execute preventative attacks. To define "imminent" as a matter of hours, days or weeks is illusory. In determining which threats are imminent, there are no hard rules, and the President, perhaps in consultation with Congress, will have to discriminate on a case by case basis, supported by the best intelligence available.

Preemptive attacks possess limited objectives or discrete targets. The aim is the elimination of a particular threat or capability. While a preemptive attack is a war-like act, it is not a war in itself. U.S. Military Doctrine defines attacks, raids, and strikes, outside of a war, as military operations other than war (MOOTW). Preemptive war is longer in duration than an attack and has as its objective the imposition of the attacker's will on an opponent, normally with

limited ends in view. Convincing evidence of an imminent enemy attack drives preemptive attack and preemptive war. In both forms an imminent threat leaves little, if any, time to employ means other than force, to decide, and to act. Ultimately, preemptive operations react to an imminent attack, the character and timing of which are determined by the threat.

Preventative attack is a term undefined outside of this paper. There are no references to it in either theory or doctrine. Nonetheless the concept of preventative attack is relevant and many of the President's statements suggest such a concept. Preventative attack is similar to preemptive attack. However the former rests on a threat judged to be inevitable, as opposed to imminent. Moreover, it differs from preemptive attack in the time available to assess, decide and act. It is premeditated and not an act of last resort. Proving the inevitability of an attack is difficult, much more so than proving the threat of an imminent attack. The same is true of preventative war.

Both preventative attack and preventative war are premeditated acts aimed at eliminating an anticipated threat. The time available before taking action should allow the exhaustion of diplomatic or other means of national power to diffuse the underlying causes of the confrontation prior to out-break of hostilities. Likewise, time provides the opportunity for building domestic and international consensus and legitimacy. In preventative actions, the attacker possesses the initiative in terms of choosing the time, place, and character of his initial attack. Part of the rationale for preventative military actions rests on cost benefit analysis. "If an attack or war is inevitable, why not fight at the time and place of my choosing, while I have the initiative and before the enemy increases his strength?" This logic is more relevant if the potential assailant possesses weapons of mass destruction (WMD) or is about to obtain them. There is a moral component to this argument as well. If the cause is just, preventative actions may be more economical in terms of collateral damage and loss of life.

FOUNDATIONS OF ANTICIPATORY SELF-DEFENSE

The foundation for rationalizing anticipatory defense rests in the legacy of Just War Theory and International Law stretching back to

St. Augustine.[11] An early Christian thinker, St. Augustine, and those who followed him, tried to reconcile the competing moral principles of nonviolence and the evil of taking human life with the need to protect innocent human life through the use of force and violence.[12] This tradition produced a construct that has come to be known as *jus ad bellum* or "The Just War Framework." The essential elements are:

- Just Cause;
- Legitimate Authority;
- Public Declaration;
- Just Intent;
- Proportionality;
- Last Resort; and,
- Reasonable Hope of Success.[13]

In the 16th century, Hugo Grotius, in his seminal work, *The Law of War and Peace* (1625), developed a theoretical construct of international law from just war theory. His theories formed the basis of modern international law. The Treaty of Westphalia in 1648 (ending the Thirty Years War and influenced by Grotius' work) and the Congress of Vienna in 1814-15 established a set of international norms that have endured to this day. These norms are the concepts of the modern nation-state and sovereignty.[14]

The first diplomatic rationale for preemption based on self-defense came from the United States. In the Webster-Ashburn Treaty of 1842, Daniel Webster, America's Secretary of State at the time, created what has come to be known as the "Caroline Doctrine," a definition of the circumstances necessary for a nation to justify preemptive hostilities in self-defense.[15] Webster stated that there must be a "necessity that self-defense is instant, overwhelming, and leaving no choice of means, and no moment of deliberation."[16] This legacy endures today in Article 51 of the United Nations (U.N.) Charter. Moreover it accommodates key elements of the "Just War Framework." Webster's doctrine implies just intent, last resort, and perhaps proportionality.

Over the past 4 centuries, the concepts of nation state, sovereignty, just war, and the right to self-defense have coalesced in international norms, codified in Article 51 of the U.N. Charter. Article 51 states,

"Nothing in the present Charter shall impair the right of individual or collective self-defense if an armed attack occurs against a Member of the United Nations."[17] The authors of Article 51 clearly intended it for nation-states.[18] Moreover, the concept of "armed attack" did not anticipate terrorist attacks by nonstate actors such as those of 9/11. Sean D. Murphy argues:

> While there have been spirited debates over the right to engage in "anticipatory self-defense," most governments and scholars, and the International Court of Justice, appear to agree that self-defense is permitted under Article 51, but only when there has been an "armed attack." Yet the type of armed attack has been less studied.[19]

Determining whether an armed attack is under way represents a highly subjective decision. At what point under Article 51 would the United States have been justified in attacking Nagumo's aircraft carriers, as they steamed toward Hawaii in 1941? Could America have attacked them when they were leaving Japanese waters? When they were transiting the Northern Pacific? Perhaps when combat loaded Zeros, Kates, and Vals revved their engines on flight decks some 250 miles from Oahu? Article 51 implies that unless a nation could determine with certainty that an attack was imminent and about to commence, it would have to wait until the attack was in progress to defend itself. The authors of Article 51 set an understandably high standard for the justification of war-like acts, even when undertaken in self-defense.

Given the demonstrated capabilities of international terrorists, not to mention a world proliferating with WMD, it appears that Article 51 of the U.N. Charter merits reconsideration. The only way to completely reconcile a preemptive strategy with the U.N. Charter is to equate imminent attack with the armed attack of Article 51. Nonetheless, many international law experts believe Article 51 allows anticipatory self-defense.

Following 9/11 the U.N. Security Council issued Resolution 1373 (UNSCR 1373).[20] It reaffirms that international terrorism is a threat to international peace and states the need to combat terrorism by "all means" in accordance with the U.N. Charter and the right to self-defense.[21] It further states that nations should work together

to prevent and suppress terrorist acts within and across their boundaries, while refraining from providing support to terrorism.[22] Nonetheless, while UNSCR 1371 calls on member nations to act and legitimizes preventative measures, it falls short of endorsing unilateral or multi-lateral preemptive or preventative military actions. President Bush has already stated that preemption and prevention are methods that America will employ in the Global War on Terror. However, short of specific Security Council Resolutions authorizing such actions, preemption pushes the limits of Article 51 and UNSCR 1371.

Terrorist organizations have changed the way the world deals with the concept of sovereignty. This is particularly true of failed states, or those too weak or unwilling to deal with terrorists on their territory. Operation ENDURING FREEDOM is a case in point. The Taliban, despite receiving an ultimatum from President Bush, refused to extradite elements of al-Qaeda linked to 9/11 and operating from Afghanistan. The United States, with support from much of the world and in concert with the Northern Alliance, toppled the Taliban and occupied Afghanistan to restore order and attack al-Qaeda. These actions constituted retaliation against terrorists who attacked America. This was not preemption.

Most agree that Article 51 rules out preventative war. Nevertheless, it appears that the U.N. may set a precedent in Iraq. President Bush is holding Saddam Hussein responsible for his past transgressions. Moreover, he is holding Saddam responsible for the likelihood that he will produce and employ WMD or provide WMD to terrorists. Driven by the United States, the U.N. has started down a path that could provide a measure of legitimacy for preventative war. U.N. Security Council Resolution 1441 (UNSCR 1441) (November 8, 2002) states that Iraq, "will face serious consequences as a result of its continued violations of its obligations."[23] Meanwhile the "United We Stand" statement of January 30, 2003, signed by eight European leaders, add further legitimacy for preventative war.[24]

If the United States prosecutes preemptive actions, it will do so only by pushing the limits of Article 51 of the U.N. Charter, while accepting associated risks. Preventative actions, on the other hand, would be best legitimized when executed within the framework of Security Council resolutions or a willing coalition.

ANTICIPATORY SELF-DEFENSE IN STRATEGIC MILITARY THEORY

A survey of classic theoretical works offers little with regard to preemption, preemptive war, or preventative war. Sun Tzu's platitudes, addressing the importance of surprise and knowing the enemy, offer tenuous relation to preemptive strategies.[25] Surprise may play a role in striking an imminent threat or in choosing the time and place of preventative strikes or war. However, knowing the enemy's intent is a crucial element in determining whether or not to launch preemptive or preventative action. Likewise the theory of the "indirect approach" offered by B.H. Liddell Hart bears some similarity to preemption in that the defender attempts to catch his enemy off guard by striking as the latter executes his attack.[26] Clearly, the whole idea of preemption implies an ability to gain some form of advantage on the erstwhile attacker, even if only in a tactical sense.

Clausewitz' "paradoxical trinity" possesses significant relevance to the 'Just War Framework' and preemption.[27] In his effort to explain the phenomenon of war the Prussian theorist described war's dominant tendencies as

> primordial violence, hatred and enmity, which are to be regarded as blind natural force; of the play of chance and probability within which the creative spirit is free to roam; and of its element of subordination, as an instrument of policy, which makes it subject to reason alone.[28]

He ties each part of this trinity to "the people . . . the commander and army," and "the government" respectively.[29]

Clausewitz' trinitarian paradigm correlates with the "Just War" construct and provides insights into some of its key elements. In just war theory a government's political aims are manifest in the concept of legitimate authority. These political aims further relate to the public declaration that the legitimate authority should issue. Clausewitz describes war as an instrument of policy subject to the realm of reason.[30] Reason, in an ideal sense, should employ war only with just intent, proportionality, and as a last resort. Moreover, the rational leader should not launch a war without a reasonable hope of success.

Likewise, in Clausewitz' description of the passions inherent in the populace, he accounts for the importance of obtaining domestic and international legitimacy.[31] Certainly, in a democracy such as the United States, and even more so in a coalition or body like the U.N., popular support offers not only legitimacy but also moral support for a just cause. Conversely, preemptive and preventative military actions may inflame the passion of those sympathetic to America's foes.

When Clausewitz speaks of the "commander and army," where the "the play of chance and probability within which the creative spirit is free to roam," he accommodates just war theory's proportionality, last resort, and reasonable hope of success.[32] Political leaders depend on the military to create viable options for the application of force. The military determines the lead-time required for a preemptive strike and by default determines whether there is time available to apply means other than force. It determines the chance or risk involved and provides the leader with probability of success. Likewise, the military will determine the chance of minimizing collateral damage. The political leaders must then consider the risks of the unintended consequences of military action. Of course the Clausewitzian concept of friction is at play in all of these calculations.

A superbly prepared military, capable of operational success, is rarely a cure for faulty strategy resulting from a mismatch between capability, strategy and aim. "[T]he most far-reaching act of judgement that the statesman and the commander have to make is to establish by that test the kind of war on which they are embarking; neither mistaking it for, not trying to turn it into, something that is alien to its nature."[33] Clausewitz' admonition must be the point of origin for strategists, as they plan for war. It demands rigorous and realistic analysis of the object in view and the capabilities at hand. No less important is the cost benefit analysis of the object desired and the resources the state is willing to expend in pursuit of its aims. This is true of preemption and prevention. When planners cannot create viable ways with the available means, military leaders must communicate that reality to their political leaders. Frequently political leaders have reason to persevere despite a mismatch between ends, ways, and means. Given the myriad of factors beyond their control,

strategists often plan and execute operations as circumstances demand as opposed to how they want to. Furthermore, military leaders should rigorously explore alternative strategies, or branches and present them to senior leaders. Adjustments to strategies and perhaps the ends must rest on the circumstances of unexpected operational opportunities and setbacks. However, when changes occur to aims, a reassessment of strategy from ends to means is in order. The harmonization of strategy and aims is no less critical in the execution of preemptive and preventative actions. Planners must carefully weigh the possible second and third order effects of preemptive actions. Immediate success in preemptive actions may have long-term unexpected or undesirable results. The risk of unintended consequences, escalation, and successful conflict termination come to mind. Clear criteria for action, developed prior to acting, possess great value given the limited time available in reacting to an imminent threat.

Early Cold War theorists provide the most direct analyses of preemptive strategies. They directed their efforts at making sense of nuclear warfare and explored preemptive concepts with greater rigor than their predecessors. Nonetheless, one requires caution when searching for contemporary utility in their writings, given the differences between nuclear war—risking an end to civilization—and the war on terrorism. One theorist who provides insights for current students of preemption is Bernard Brodie. His landmark work, *Strategy in the Missile Age*, produced an approach to nuclear strategy that the United States employed through the end of the Cold War.[34]

Brodie traced the evolution of strategic thought from Clausewitz to the 1950s, emphasizing the obsolescence of traditional concepts in the missile age. He believed that nuclear weapons, with their inherent destructiveness, were exclusively offensive instruments with no defensive capability. Thus, the primacy of the defense as the stronger form of war was invalid in the nuclear era.[35] Paradoxically, the traditional strength of the offense, seizing the initiative by striking first at the time and place of the attacker's choosing, no longer held merit when the outcome might be mutual destruction.[36] Moreover, with the risk of enormous losses in nuclear war, Brodie believed that a victory in strategic nuclear war might provide little advantage over defeat.[37]

Advocating a strategy based on deterrence, Brodie argued against strategies based on anticipatory defense. Attempting to highlight the dilemma in anticipatory strategies he mused:

> . . . the philosophy of "I won't strike first unless you do," though the phrase should no doubt be edited to read, "unless you attempt to." Anyway there is the insistence that come what may, "I will strike first!"—though the "I" agrees to wait long enough so that my qualms on moral grounds are automatically resolved.[38]

Brodie felt that American values argued against preemptive strategies. He believed such strategies placed an undue burden for decision making on the shoulders of the President.[39] Moreover, he believed it was beyond America's capability to divine the inevitability of nuclear war.[40]

Despite his focus on nuclear warfare against a symmetrical threat and his inability to predict a future populated by international terrorists and rogue states, Brodie's analysis of preemptive strategies provides pertinent insights on current U.S. policy. For preemption to be valid, Brodie emphasized the requirement for precise intelligence to identify imminent threats with great certainty. That same quality of intelligence was required to target and preempt threats. He envisioned the President as the ultimate decisionmaker in determining whether threats were truly imminent and whether attacking preemptively was warranted. Finally, to justify preemption the President would require strong evidence to persuade the American populace of just cause when striking first.[41] Just war theory and Clausewitz' trinity echo throughout his writings.

Michael Walzer adds useful insights on anticipatory self-defense in *Just and Unjust Wars*. Walzer not only accepts preemption as a legitimate form of self-defense, but he also criticizes views holding an overly legalistic interpretation of imminent threat. Thus he offers alternative approaches more sympathetic to the President's new policy. To Walzer, the legalists see Webster's interpretation of preemption as "a reflex action, a throwing up of one's arms at the very last minute."[42] Walzer believes such a view is too restrictive, when the safety of the nation's citizens and allies is at risk. He adds, "The line between legitimate and illegitimate first strikes is not going to be drawn at the point of imminent attack but at the point

of sufficient threat."[43] Walzer defines sufficient threat as "a manifest intent to injure, a degree of active preparation that makes that intent a positive danger, and a general situation in which waiting, or doing anything other than fighting, greatly magnifies the risk."[44] His approach accommodates both preemptive and preventative actions and simplifies the criteria for a just war to two fundamental principles: it must be a defensively motivated last resort and "its anticipated costs to soldiers and civilians alike must not be disproportionate to (greater than) the value of its ends."[45] Walzer's thoughts on just war theory and anticipatory self-defense correlate with President Bush's strategy.

HISTORICAL EXAMPLES OF ANTICIPATORY SELF-DEFENSE

Preventative War: Imperial Japan, 1941.

On December 7, 1941, the Imperial Japanese Navy struck Pearl Harbor with a surprise attack of devastating proportions. This unannounced initiation of war was the opening blow in a war of conquest. Near simultaneous attacks stretching from the Hawaiian Islands to the Indian Ocean followed in its wake. Japan launched a preventative war intended to create a strategic situation so intimidating to the United States that a negotiated settlement to Japan's advantage would result. Japanese strategists believed that these surprise attacks were the only way Japan could prevail in a war that the United States would inevitably thrust on them.

Between 1895 and 1941, radical nationalism dominated Japan. Japanese leaders felt exploited in their dealings with Western Powers.[46] Nevertheless, it was Japan's designs on China that led to war with America. The League of Nations censured Japan after its invasion of Manchuria in 1931, and Japan protested by withdrawing from the League.[47] On July 7, 1937, a minor engagement near Peking between Japanese and Chinese forces escalated to another war.[48] By 1939, after initial Japanese successes, the fighting in China devolved into a war of attrition.[49]

To win the war, Japan endeavored to isolate China and obtain additional resources in Indo-China. The fall of France and the

Low Countries in 1940 provided an opportunity.[50] In September 1940 the Japanese occupied northern French Indo-China.[51] Despite American warnings, the Japanese then occupied the southern half of French Indo-China in July 1941.[52] These moves triggered American restrictions on oil and scrap metal trade with Japan.[53] To continue the war in China, Japan needed resources, particularly oil. Without oil from America and without a change in policy Japan could only obtain oil by seizing the Dutch East Indies. The Japanese estimated their oil reserves at only 6 months without oil from the United States or other sources. Their attempts to reverse America's embargo through negotiation were unsuccessful. In the meantime American strength in the Pacific grew, while American industry began gearing up for war.

Japan's leaders decided to seize the resource areas they required. On September 4, 1941, they chose a path leading to preventative war with the United States. They decided on war because they believed the seizure of resource areas would trigger American intervention.[54]

> Our Empire will (1) for the purpose of self-defense and self preservation complete preparations for war, (2) concurrently take all possible diplomatic measures vis-à-vis the USA and Great Britain and thereby endeavor to attain our objectives. (3) In the event that there is no prospect of our demands being met by the first ten days of October . . . we will immediately decide to commence hostilities against the United States, Britain and the Netherlands.[55]

Eventually, the Japanese extended the deadline for decision to November 30, 1941.[56] However, on November 26 the United States made it clear that Japan would have to withdraw from China and Indo-China.[57] Japan's leaders determined that giving up their goals in China was unacceptable and the equivalent of capitulation. On November 30, 1941, with the Emperor's authorization, they decided on war.[58] The attack on Pearl Harbor was by definition the opening battle in what the Japanese leadership believed was a preventative war. After Pearl Harbor, with most of the American battle fleet neutralized and the British Pacific fleet heavily attrited and chased from the Pacific, the Japanese Army and Navy accomplished nearly all of their assigned objectives.[59]

Preemptive War: Israel, 1967.

After the War of Independence in 1948 and the 1956 "100 Hour War," Israel lacked operational depth, surrounded as it was by hostile nations. Israeli policy was simple and logical, given their geopolitical situation. First, avoid war. To deter war, Israel would maintain a credible military capability and demonstrate a willingness to use it. In the event of war, Israel must win without outside help and against all neighboring enemies simultaneously. Finally, Israel would fight without losing a major battle, since the consequences of a single defeat could be disastrous.[60]

Israel announced *casi belli* for which it would consider offensive, anticipatory, or defensive wars against potential opponents. These causes were a massive build up of threatening forces near Israel's borders; the closing of the Strait of Tiran; a high level of guerilla attacks that passive defense or punitive raids could not contain; preparation for a strategic air attack on Israeli population centers, infrastructure, or facilities; the entry of Jordan into an alliance with Egypt and Syria; the takeover of Lebanon or Jordan by hostile powers; and a growing imbalance in the combat potential between probable aggressors and Israel.[61]

From fall 1966 through summer 1967, a series of escalating events and miscalculations led the United Arab Republic and Israel toward war. These escalations boiled over in spring 1967. On April 7, 1967, Syrian artillery fired on Israeli settlements in the Galilee. Israeli aircraft retaliated by bombing the artillery positions and then shot down six Syrian aircraft that rose to intercept them. On May 14, 1967, Egypt's President Gamal Abdul Nasser publicly claimed that Israel was mobilizing for war, and on May 16 he asked the United Nations Emergency Force in the Sinai to withdraw from border areas.[62] Israel and Egypt started partial mobilizations. By the 23rd, most of the U.N. Emergency Force had withdrawn; as they did, Egyptian forces closed the Strait of Tiran.[63] By May 27, most Arab nations pledged support for any nation attacked by Israel.[64] Meanwhile Jordan's King Hussein signed a pact with Nasser that placed Jordanian forces under an Egyptian General and opened Jordan to Egyptian and Iraqi forces.[65] On June 4, Iraq joined the alliance of the United Arab Republic and Jordan.[66] Nasser declared, "We are eager for

battle in order to force the enemy to awake from his dreams and meet Arab reality face to face," further evidence that an Arab attack was imminent.[67] Seven Egyptian divisions moved into the Sinai, and Egyptian air activity increased dramatically, while the shelling of Israeli settlements from the Golan and Gaza intensified. Meanwhile, war rhetoric in the Arab media reached fever pitch.[68]

The Arabs had triggered five of the Israel's six *casus belli*. Facing what they believed to be an imminent attack, Israeli leaders decided to strike first. Only preemptive war made sense to those responsible for preventing disaster from overtaking their tiny nation. On June 5, 1967, at 0755, the Israeli Air Force launched a preemptive, surprise attack. By noon its aircraft had destroyed the Egyptian Air Force.[69] Spurred by messages from the Egyptians, Jordan committed its air force and started long-range artillery attacks on Israel.[70] In the Golan the Syrians waited until the 6th, when they launched an abortive ground attack.[71]

Employing speed and shock the Israeli Defense Force attacked into the Sinai and Gaza Strip. By June 8 they secured a line along the Suez Canal.[72] Meanwhile, the Israelis pushed the Jordanians out of the West Bank.[73] Ignoring U.N. efforts to establish a cease fire on the 8th, the Israelis attacked to rid Galilee of the Syrian threat. By the 10th they achieved their objectives, and the fighting ended.[74]

Preventative Attack: The Osirak Reactor, 1981.

An example more analogous to the President's new strategy is Israel's attack on Iraq's Osirak nuclear reactor in 1981. At 1735 hours on June 7, 1981, eight Israeli F-16s, flown by elite pilots, streaked across the Baghdad sky to attack the heart of Iraq's nuclear weapons effort. In the span of a minute, they destroyed the Iraqi reactor, built with French support, and indefinitely set back Saddam Hussein's nuclear weapons program. Making the 635-mile flight from Israeli to Baghdad, the attackers violated Jordanian and Saudi Arabian airspace at great risk of detection. The attackers achieved surprise and met only ineffective anti-aircraft fire.[75]

The Israeli attack was a clear example of a preventative strike. Between August 1979 and June 1981, Israeli intelligence had been tracking Iraq's attempts to obtain nuclear weaponry. With the

assistance of France, Iraq began building a reactor in the late 1970s with the intention of producing enough enriched uranium to build nuclear weapons. By fall 1980 Israeli intelligence projected that the reactor would go on-line within a year. They could not wait because a strike after the reactor was on-line would produce a radioactive disaster. As a result, the Israelis planned the attack for November 4, 1980. However, they postponed the attack three times. In the spring of 1981, Israeli intelligence predicted the reactor would go on-line between July and September; as a result, the Israelis launched the attack on June 7, 1981.[76]

The Israeli rationale was simple. Israel's enemies had sworn its destruction and attempted just that in 1948, 1967, and 1973. Saddam's attempt to build an "Arab Bomb," combined with his intense anti-Israeli rhetoric, was hostile intent. Rather than allow the Iraqis to produce a WMD capable of hitting Israel's urban area's, they would strike before Iraq could build a bomb.[77] Despite Arab vows to destroy Israel the activation of the reactor was not an imminent threat. However, in the eyes of Israeli leaders, the threat was inevitable and allowing the reactor to go on-line was not worth the risk. With an operational reactor, Saddam Hussein would inevitably produce a nuclear weapon, and the Israelis believed it would be employed to threaten or strike them. Furthermore, an Iraqi nuclear weapon would provide a deterrent to Israel's nuclear capability. The similarities with current events surrounding Iraq are obvious.

HISTORY AND THE JUST WAR CONSTRUCT

Applying the "just war framework" to these historical examples provides numerous insights. Moreover, those insights contribute to the construction of American decision criteria for anticipatory self-defense.

Just Cause/Just Intent.

Japan couched its justification for war in preventative war rhetoric. A warped sense of just cause was an excuse for war. Nonetheless, its real aim was to subjugate, exploit, and enslave the areas it conquered. Clearly the Japanese cause and intent were

unjust. Most of the world saw Japan's aggression for what it was, and its example demonstrates the risks inherent in justifying a policy of anticipatory defense. Assuming America's motivations are just in regard to anticipatory defense and that eventually most of the world will accept the policy, how long will it take for a rogue state to invoke a similar policy as an excuse for aggression? In both of the Israeli examples, the cause was national survival and the intent was the defeat or destruction of the immediate instruments of the threat.

Legitimate Authority/Public Declaration.

Each nation acted under the legitimate authority of its national leadership. In two of the examples, Israel issued public declarations in the form of *casi belli.* In 1967 and 1981 threats triggered one or more of these *casi belli.* The Imperial Japanese made no public declaration of conditions that would trigger a war. Meanwhile, they carried on normal diplomatic relations with their opponents up to the moment of attack and concealed their intentions, while attempting to negotiate a settlement.

Proportionality.

Japanese strategists ignored the concept of proportionality. The conquest of China, Southeast Asia, Australia, and the Western Pacific was an extreme course of action to ensure Japan's survival. The Israelis demonstrated proportionality and restraint in both of their actions. In the 1967 War, the Israeli Defense Force limited its objectives and refrained from seizing territory beyond the Suez Canal, Jordan River, or the Golan. The Israelis refrained from continuing the war to inflict even greater losses on their opponents. Likewise, they limited the Osirak Raid to the reactor alone, when additional air strikes to suppress Iraqi air defenses could have been executed.

Last Resort.

In terms of "last resort," Tojo had alternatives to wars of aggression, and there was no evidence of an imminent American

attack or even an inevitable entry into the war, if Japan refrained from attacking American forces. The Japanese could have withdrawn from China and Indo-China. They deemed such actions unacceptable. They could have limited their attacks to the specific resource areas they required. They determined this was too risky and expected such attacks would trigger American intervention. This is not to say that a future declaration of war and intervention by the Americans was impossible. Despite a strong isolationist sentiment in the United States, American efforts at mobilization and their economic restrictions on precious war material were threats to Japan's security.

In 1967 the Israelis faced what they perceived as an imminent invasion; preemptive war was a last resort. However, Osirak raises interesting questions with regard to the imminent verses inevitable nature of the threat. Israeli diplomacy garnered little international support in its efforts to forestall nuclear proliferation in Iraqi. Had the reactor gone on-line in 1981, an Iraqi bomb was still years away. The threat was not imminent. However, if Israel waited to strike after the reactor went on-line, the potential for disproportionate casualties was unacceptable. Interestingly, Khidhir Hamza, one of the scientists working on Iraq's nuclear program, stated that Saddam intended to use nuclear weapons against Israel.[78] The Israelis believed the risk of allowing the Iraqis to build a bomb was too great. Thus the Osirak Raid was preventative. One can only speculate what the Middle East would look like today, if Saddam had developed a nuclear weapon in 1980s. Israel's dilemma in 1982 is analogous to the Iraqi problem President Bush is dealing with today, while North Korea demonstrates the risk involved in allowing rogue states to obtain WMD.

Reasonable Hope of Success.

Calculating the potential for success, the Japanese accepted enormous risks. Military advisors predicting a successful conclusion to the war within 3 months of Pearl Harbor left Emperor Hirohito exasperated.[79] The Japanese strategic assessments were flawed and based more on wishful thinking and pride than hard calculations.

The Israelis believed they would succeed in skillfully calculating the risks involved in their operations and they applied measures to mitigate those risks.

ANTICIPATORY SELF-DEFENSE IN AMERICAN STRATEGIC CULTURE

Americans see the Japanese attack on Pearl Harbor as a dastardly sneak attack. Thus, when people speak of preemption, many Americans conjure up images of an unjust, unannounced, surprise attack. However, the United States has a tradition, albeit a small one, of preemptive attacks. American presidents and senior military leaders have seriously considered, planned for, and even executed preemptive/preventative operations when they believed such operations were necessary. Interestingly, as stated earlier, Daniel Webster provided one of the earliest documented rationales for preemptive attack.

On the morning of December 7, 1941, the USS *Ward* applied defensive rules of engagement to execute a preemptive attack on a Japanese midget submarine outside Pearl Harbor.[80] Likewise, prior to December 11, 1941, U.S. warships in the Atlantic engaged German submarines.[81] In the late 1930s the Marine Corps planned to seize Caribbean and Atlantic Islands and littorals to preempt the Nazis from gaining advantage they might obtain through diplomatic means.[82]

During the Cold War, American leaders flirted with preemptive strategies. While the United States rejected preventative war in NSC-68 of April 1950, senior military leaders continued to advocate anticipatory defense.[83] Many believed that the measures required for America to prevail in a long Cold War would exhaust the United States while increasingly militarizing the society. Moreover, they argued that, if war was inevitable, it made sense to strike before growing Soviet strength made the risks prohibitive.

In September 1953 President Eisenhower considered preventative war with the Soviet Union in correspondence to Secretary of State John Foster Dulles.[84] He reversed such thinking, and from 1954 until the end of the decade, U.S. nuclear doctrine explicitly ruled

out preventative war, "although it continued to emphasize the desirability of a preemptive strike if a Soviet attack was deemed imminent and unavoidable."[85] In 1962, President Kennedy, his cabinet, and the Joint Chiefs of Staff seriously contemplated a preventative war in the early stages of the Cuban Missile Crisis.[86] From the 1960s to the end of the Cold War, NATO strategy rested on the first use of nuclear weapons if conventional forces could not defeat a Soviet invasion of Western Europe.

Throughout the Cold War the goal of some of America's small-scale interventions included the installation of governments sympathetic to the United States. One can view such interventions as preventative actions to remove left-leaning governments before the Soviets could exploit them.[87] Often these interventions were covert, as was the case in Iran in 1953, Guatemala 1954, and Chile 1973.[88] Occasionally they were overt, as with the 1961 Bay of Pigs invasion.[89] Arguably, NATO's brief war with Serbia in 1999 was a preventative war on behalf of the Kosovar Muslims.[90] Notwithstanding the preventative nature of these endeavors none rise to the level and scope that President Bush is now contemplating.

However, pundits musing that preemption is a radical break with American tradition ignore significant portions of the nation's history. American senior leaders did not hesitate to give anticipatory defense strategies serious consideration when they were the only practical expedients in difficult national security situations. This was particularly true in the Cold War when America's survival was at stake.

It is difficult to equate the arsenal of today's terrorists and rogue states with the destructive capacity of the former Soviet Union. Nonetheless the Soviets, however threatening, never struck the United States. Al-Qaeda attacked America with great cost to the nation. Given the demonstrated ability of terrorists to strike the United States and the potential wedding of WMD with future terrorist attacks, the president's anticipatory strategy is valid. The question becomes one of when to act preemptively or preventatively. However, such a strategy must be juxtaposed with the American cultural bias against starting wars. Because of these dilemmas, consideration of just war criteria and legitimacy could prove useful to the effective application of the president's strategy. With this in

mind, it makes sense to find a paradigm that justifies and provides decision criteria for an American strategy of anticipatory self-defense.

PROPOSED DECISION CRITERIA FOR ANTICIPATORY SELF-DEFENSE

> The final tribunal is our own conscience . . . . We are fighting to reestablish the rule of law . . . . Humanity rather than legality must be our guide.[91]
>
> Winston Churchill

Whenever possible, DoD should develop scenarios and capabilities to counter potential threats. Moreover, it should request presidential criteria for likely scenarios and thresholds for preemptive and preventative actions. In the absence of such criteria, DoD should wargame and recommend its own. With some modification, the "just war" framework is a solid starting point.[92] A principled, moral approach to the problem based on a long-standing ethical foundation that reflects most Americans' sense of fair play not only has value in deciding whether to attack preemptively but would serve the nation well in justifying such actions.

While it seems evident that scenarios requiring preemptive actions are a crisis, some cases, such as preventative war in Iraq, will not require time constrained crisis response. In regard to crisis action planning, the Department's current joint doctrine remains sound and applicable.[93] However, criteria for the employment of preemption would be useful in both crisis response and deliberate planning.

Imminent/Inevitable Threat.

Imminent/inevitable threat is determined by the President on a case-by-case basis with regard to imminent threats. When the threat is deemed inevitable, Congress should be consulted, if not asked for endorsement. There must be a high probability of a threat attack inflicting significant damage to the United States or American citizens.

In Cases Involving WMD.

In cases involved WMD, the adversary possesses or is on the verge of possessing WMD. The adversary intends to use WMD or make them available to others who will. The risk of waiting for absolute certainty is unacceptably high.

Legitimate Authority.

The president is backed by domestic and multilateral support when possible. When he deems a threat inevitable, he should, as a minimum, consult Congress, if not requesting their endorsement. In preventative actions he should make every reasonable effort to garner domestic and international legitimacy prior to acting.

Public Declaration.

Whenever possible, the United States should signal its intention to preempt prior to acting. To some degree, America's stated policy in regard to anticipatory defense already signals this intent. If the United States chooses not to signal prior to a specific action, it must assume responsibility and provide evidence of the threat as soon as possible following an attack. In the case of preventative actions it should signal and issue a *demarche.*

Just Intent.

The U.S. objective must aim at eliminating imminent or inevitable threats to the United States and its citizens and not make an attempt at aggrandizement or material gain.

Proportionality.

The United States should employ sufficient force to accomplish the mission. However, it should limit damage and casualties to a level only required to destroy or defeat the threat. Its military forces should develop and modify standing rules of engagement as required based on the situation surrounding each operation.

Whenever possible, they should use nonlethal weapons, and, as a general rule, they should confine anticipatory defensive actions to nonnuclear forces.

Last Resort.

Preemptive action is the only course of action possessing a reasonable chance of eliminating the threat prior to its inflicting unacceptable harm to Americans or the United States. In the case of preventative actions, the United States should apply every element of national and international power possible prior to military action or war.

Reasonable Hope of Success.

The actions undertaken by the United States must have a high probability of accomplishing the mission of destroying the targeted threat with minimal collateral damage.

This construct is not absolute or all-inclusive. As one commentator notes, "Prescriptive approaches rarely meet the tests of history, particularly in dynamic time periods."[94] However, such criteria could represent a tool to guide the thoughts of the nation's senior decisionmakers. Ultimately each preemptive action will require an estimate of the situation, however brief, and a decision based on the information available at the point of decision.

The United States could publicize criteria or *casi belli* for anticipatory self-defense. The announcement that a rational and morally based paradigm was in place to guide U.S. actions would reinforce domestic and international legitimacy. Furthermore, explaining a preemptive action after the fact by employing the criteria possesses value. However, one can make a strong opposing argument against publishing criteria, as they would provide the basis for criticism in the event that the United States failed to meet one or more of the criteria. In any case such criteria should never back the president into a corner.

The Department should recommend that the president exhaust all viable efforts to win support of the international community through a coalition, the U.N., or both before he commits to preemptive or

preventative actions. At the same time the president should seek a manifestation of support from the Congress and domestic populace. While a declaration of war is the most demonstrable vehicle for such support, a clear congressional resolution would add legitimacy. It is instructive to note that Congress has declared war only five times in some 200-270 armed conflicts involving U.S. Armed Forces.[95] Arguably, the Joint Resolution of September 14, 2001, empowered the president to order preemptive actions. Nevertheless, given the gravity of a decision to act preemptively against or in another nation state, Congressional endorsement is the best demonstration of domestic legitimacy.

STRATEGY: THE ENDS-WAYS-MEANS OF ANTICIPATORY SELF-DEFENSE

> Prevention and preemption are . . . the only defense against terrorism. Our task is to find the enemy and destroy them before they strike us.[96]
>
> Donald H. Rumsfeld

Ends.

With or without preemption in America's National Military Strategy, DoD must assure allies and friends, dissuade adversaries, deter aggression and coercion, and defeat adversaries, if deterrence fails.[97] However, given the specific reference to preemption in the latest NSS, the Department must prepare to defeat terrorist threats with global reach and rogue states before they attack America.[98] This is one line of operations in the war on terror. The ends achieved by preemptive measures will not in themselves bring victory. They contribute to the overall ends. Such attacks will aim to destroy terrorists by attacking their fighting elements in their sanctuaries, as well as attacks on their leadership, command, control and communications.[99] Moreover, given the President's statements, the U.S. military must be able to execute preemptive or preventative wars, when threats warrant such action.

Ways.

Ways or courses of action to counter threats where anticipatory self-defense applies will likely fall under one of three categories: signaled, unannounced, and clandestine preemption/prevention.

Signaled Preemption/Prevention. At first blush, signaling would appear to contradict the "imminent threat" context normally associated with self-defense and justifiable preemption. However, signaled preemption could include a public warning or *demarche* to potential threats. Signals could include presidential statements, Congressional hearings and resolutions, as well as a clearly stated intent to strike by declaration at the United Nations. Media diplomacy could send similar signals. The President and most of his cabinet have already done this. Signaling, to some degree, mitigates objections that might be raised to a surprise attack or lack of "public announcement" in just war theory.[100] Here America would avoid much of the stigma attached to an unannounced initiation of hostilities in the tradition of surprise attacks perpetrated by aggressor nations throughout history.

In some cases the United States may have to solicit the support of friendly, neutral, or unsympathetic nations to grant permission to act on their territory for preemptive or preventative attacks. Other situations might call for action within a coalition. All such cases would fall under the signaled category. Some nations might agree to American preemption in specified contingencies. Preemptive attack, preemptive war, preventative attack, and preventative war are conceivable in the context of the signaled category. In fact, given the American ethos in regard to striking first, it is difficult to envision preventative war in any other context. The president's current challenge in garnering legitimacy for a preventative war against Iraq is a case in point.

Unannounced Preemption/Prevention. Unannounced action is a less desirable course of action, but nonetheless one for which scenarios can be envisioned. The President could order a preemptive attack without warning, when it is imperative to eliminate an imminent attack originating from a critical mobile target in a time-constrained environment. In the extreme, this situation could manifest itself in a nation loading and preparing to launch ballistic missiles armed

with WMD at targets in America or its allies. At the other end of the spectrum could be a terrorist cell transiting or staging in another country in preparation for an imminent attack. It is entirely plausible that there will be cases where there is little time to consult with or obtain some form of international or domestic support before preempting. Unannounced preemption does not obviate the need for post strike justification. Once an attack is complete, America must be prepared to provide convincing evidence of the necessity for action. Preemptive and preventative attacks are conceivable in the context of unannounced actions. However, given the American ethos in regard to anticipatory self-defense, it is difficult to envision preemptive or preventative war in this context.

Clandestine Preemption/Prevention. The discrete elimination of impending attacks on America or U.S. citizens is the final type and labeled clandestine preemption/prevention. Clandestine preemption or prevention by their nature are exclusively the domain of attacks or strikes against discrete targets. Preemptive war or preventative war will not be considered as clandestine options.

It is not difficult to envision situations where the President may have to act in the absence of international or domestic signals and without an immediate acknowledgement of the strike. Some of these cases may arise when the host nation of the target is uncooperative. Moreover, the President may determine that the nature of the situation requires an attack that remains secret for an extended period of time. A myriad of factors may require secrecy. The military may desire to protect intelligence sources or may have an operational security requirement based on a sequel to the attack. Consider a legitimate nation, whose leaders want to eliminate terrorists in their country. However, they do not want to demonstrate overt cooperation with the United States. In such a case, they may invite clandestine attacks without acknowledging complicity. In this case the military working independently or with a civil agency, such as the Central Intelligence Agency (CIA), may act to eliminate imminent or inevitable threats. Special Operations Forces are most likely to be employed in this manner. However, conventional precision guided munitions launched from aircraft, ships or submarines might be appropriate as well.

On November 4, 2002, the CIA destroyed an SUV transporting six al-Qaeda members. They attacked it with a Hellfire missile launched from a Predator Remote Piloted Vehicle. Operating inside Yemen with the Yemeni Government's permission, the CIA killed all six personnel including Qaed Sinan Harithi, the man who had planned the USS *Cole* Bombing. The Yemenis, the President, the Secretary of Defense, and the Director of the CIA would neither confirm nor deny complicity in the strike. However, individuals speaking anonymously leaked details. Few nations objected. This action represents a prototype for clandestine preemption and prevention where post-strike denial is necessary.[101]

Deterrent Value of Preemptive/Preventative Strategies. Preemption is unlikely to dissuade terrorists committed to martyrdom. However, the anticipatory defense doctrine may dissuade some nations from supporting or harboring terrorists. Such a doctrine induces uncertainty in the decisionmaking cycles of threat actors and their supporters. Nations contemplating support for terrorists must weigh the risk of preemptive or preventative attacks. American success in Afghanistan and Yemen sends a powerful signal to rogue states. Meanwhile, demonstrations of America's preemptive potential in forward basing, flexible deterrent options, and show of force missions all reinforce deterrence.

Juxtaposed against the deterrent value of the policy is the risk that it will galvanize some nations to defy the United States and strive to balance its power regionally. International legitimacy and convincing evidence of the need to preempt will contribute to the mitigation of this risk. Another risk in the President's policy is an increased motivation for rogue states to acquire WMD before the United States can effectively execute preventative actions. North Korea manifests such a dynamic.

Means.

America's military means are impressive. Given the characteristics of the terrorist threat, nuclear and large conventional forces are less likely to be employed than Special Operations Forces (SOF). However, conventional and SOF capabilities are suitable means in

all three categories, particularly when rogue states are involved. America's nuclear capability remains sound and relevant. However, while nuclear weapons possess utility as part of the traditional deterrent, they possess little value in preemptive/preventative strikes against terrorists or rogue states. Against the latter threat SOF or conventional strikes are the first choice to eliminate small WMD capabilities. Meanwhile, National Missile Defense offers hope that small-scale weapon of mass destruction armed missile attacks can be defeated. In any case, it is difficult to envision a government so irrational as to risk American nuclear retaliation. Likewise, it is difficult to envision the United States initiating a nuclear attack with all of the associated second and third order effects to destroy small nuclear stockpiles. The risks involved are too great. Nonetheless, targeting updates will be essential as threats evolve—particularly the threat of nuclear-armed rogue nations.

America's conventional forces, including the Army's legacy force, remain relevant, particularly for interstate conflict in the form of preemptive or preventative war. However, the Army's rotary wing aviation, Rangers, light infantry, and Advanced Tactical Missile System (ATCMS) could be effective in preemptive strikes. Moreover, the Army may play an enabling role in securing forward operating bases for Air Force, SOF, and CIA operatives as they stage for strikes. The interim brigades will add to the Army's deployablity and flexibility. The U.S. Air Force, with its global reach, its growing array of precision guided munitions and stealth platforms, is a key component of conventional preemptive means. No less impressive are the flexibility, endurance, range, and over the horizon capabilities of the U.S. Navy and Marine Corps. Sea-launched precision guided munitions, carrier based strike forces, Marine Expeditionary Unit (Special Operations Capable) (MEU [SOC]) and the 4th Marine Expeditionary Brigade (Antiterrorism) provide potent force to the preemptive arsenal. Likewise, the Navy's Sea Strike concept, featuring persistent intelligence, surveillance and reconnaissance, time sensitive strike, and Tactical Tomahawk will contribute considerably to preemptive strategies. Without changing the course of transformation, the DoD should continue to pursue the multidimensional extended range precision strike, global strike task force, and the Army deep strike brigade concepts. Such

concepts could significantly enhance preemptive and preventative capabilities.

SOF are the most likely means for strikes against terrorists. Their low signature and flexibility make them particularly well-suited to these operations. Experience in Afghanistan demonstrated both the effectiveness and the over-extension of America's Special Forces.[102] DoD should give consideration to an expansion of these forces, despite the challenges inherent in balancing end-strength, maintaining quality, and optimizing reserve component roles.[103] American leaders expect the war on terrorism to be long, and transformation efforts may provide opportunity for such an effort.

RECOMMENDATIONS

Besides the recommendations already discussed this analysis leads to five additional areas that merit attention in the context of anticipatory self-defense. They are rules of engagement (ROE), interagency operations, information operations, nonlethal attack, and command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR). Unfortunately, the limits of this chapter preclude detailed examination of these topics.

The requirement to create rules of engagement (ROE) for forces committed to preemptive and preventative attacks—particularly in clandestine operations—is critical. [104] While DoD must develop general rules of engagement for such actions, discrete rules of engagement for each strike will have to be refined on a case by case basis.[105]

The importance of C4ISR in the Global War on Terror and preemption in particular is obvious. Focused, actionable intelligence is the lynch pin of any preemptive or preventative endeavor, particularly in terms of targeting, planning, and justification. In the business of preemption, minutes could decide success or failure. Streamlining the dissemination of intelligence, while maintaining appropriate security must become a priority.[106]

Throughout the planning, preparation, execution, and post operation phases of a preemption, DoD must be ready to deal with the numerous agencies at America's or its allies' disposal. The Federal Government must foster and expand the Joint Interagency

concept as necessary to facilitate preemptive endeavors.[107]

Above all, the nation and the world will demand justification for preemptive and preventative actions. A powerful information campaign can provide this justification. Well-informed American and world publics are critical to legitimacy. DoD must develop a responsive capability to accurately record and document preemptive and preventative actions undertaken on behalf of the nation.[108]

Nonlethal weapons could be useful in preemptive and preventative attacks.[109] Employing these weapons could pay great dividends in justifying attacks, reinforcing legitimacy, demonstrating proportionality, and facilitating the capture of terrorists.[110] The DoD should continue research in non-lethal weaponry and its application in anticipatory defense.

CONCLUSIONS

> The world is a dangerous place to live, not because of the people who are evil, but because of the people who don't do anything about it.[111]
>
> Albert Einstein

President George W. Bush's break with a long American tradition is a dramatic change in stated policy. Preemptive and even preventative strategies are not new to American strategic thought, but they were never so clearly codified in a declaratory policy. In a world where terrorists, with demonstrated global reach, have the potential to obtain and employ WMD an unprecedented response was required. With Churchillian and Reaganesque determination and clarity, George W. Bush is weathering the criticism of his detractors to pursue an unprecedented response to the evil of his time.

The President's strategy is as risky as it is bold. Anticipatory self-defense, even when immediately successful, will incur risks. Preemptive military action against imminent threats will probably gain acceptance from most of the free world. However, preventative actions will carry a far greater burden of justification, and, in the eyes of many, preventative actions will never be justified. Moreover,

the precedent of the new policy may inspire rogue states, with evil intentions, to declare or employ similar policies as an excuse for aggression. Meanwhile, the clearly stated intentions of this policy will only reinforce the impression for many at home and abroad that America will act unilaterally and imperialistically. Most of those holding such views will probably never think otherwise, while the policy will add to their ranks. Nonetheless, a world threatened by terrorists who have proven invulnerable to deterrence and the proliferation of devastating weaponry demands a response. Anticipatory self-defense in the form of preemptive military action is justified on the basis of incontrovertible evidence that an attack is imminent. Likewise, the nation can justify preventative military action, if there exists a high probability that an enemy attack will inflict unacceptable damage to the United States or American citizens, and if no other action is feasible. Only time and historical hindsight will reveal if the President's chosen course is correct.

The President may order anticipatory defense, in the form of preemptive or preventive military action, to protect the United States from terrorism and rogue states. This strategy is one line of operations in a more holistic strategy in the war on terror. Thus the ends achieved by preemptive measures will not, in themselves, bring about victory. They can only contribute to the overall ends.

Despite the publicity surrounding the announcement of the strategy, anticipatory self-defense will occur infrequently, and only when risks are too significant to do otherwise. While this doctrine does little to alter the fundamental ends of the nation's military strategy, it does add a page to the armed forces playbook. This course of action or "way" will manifest itself as signaled, unannounced, or clandestine military action. DoD has the means to execute these ways. The just war framework is a start point for the creation of decision criteria. DoD should develop such criteria and refine plans and tactics that optimize employment of its very capable means. The recommendations of this chapter are one small step in that direction.

In a far broader sense the President's new strategy created two enormous implications for the DoD. The first implication is the requirement for unprecedented speed and agility. To preempt imminent threats DoD will have to possess the capability to strike

distant targets with unparalleled precision on extremely short notice. This is a new style of fighting that demands a break from all previously held paradigms of rapid response. Recent examples of American force projection in Afghanistan in 2001, Kosovo in 1999, and Iraq in 1990 demonstrate the point. Impressive victories in all three of these endeavors, while rapid by traditional measures, would have been too slow, if the threat had been truly imminent. There is an inherent interagency component to speed as well. U.S. military transformation with nested initiatives in rapid decisive operations (RDO), network centric warfare, precision attack and interagency coordination represents major steps in the right direction. However, the enemy always gets a vote and his potential capabilities will challenge the speed of America's current preemptive capability.

The second implication is a subtle yet significant requirement. That requirement is a need for a change in U.S. military culture. The officers and enlisted personnel of America's armed forces have never failed the nation. They will follow orders and execute their assigned missions with dedication and elan. However, the idea of striking before a clearly defined provocation occurs is foreign to the U.S. military's fundamental ethos. Attacking al Qaeda preemptively, or executing a preventative war on Iraq is one thing, but striking first, when to the executer, the threat is not so evident or the target appears benign, is another thing. Anticipatory defense requires the U.S. armed forces to adopt a more aggressive posture and ethos at the strategic, operational, and tactical levels. If the United States fails to preempt a single threat attack and if that attack is consummated with WMD, the results could dramatically change the country and the world.

The empty blocks on Manhattan's Lower West Side testify that the world is indeed a dangerous place. Al-Qaeda's 9/11 attacks did not destroy the United States, but they did have a tumultuous impact on America's psyche and economy. How many more attacks can the United States absorb before the consequences are more disastrous? Anticipatory self-defense is one strategy to stop the wanton destructiveness of an unprecedented form of aggression before it reaches American shores. The armed forces of the United States must meet the challenges of a new strategy.

ENDNOTES - CHAPTER 3

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68. Oren, *Six Days of War,* pp. 160-164; Herzog, *The Arab-Israeli Wars,* p. 151; and Dupuy, *Elusive Victory,* p. 239.

69. This account of IAF strikes on the June 5, 1967, was summarized from Oren, *Six Days of War,* pp. 170-178; Baker, *Six Day War,* pp. 60-73; Dupuy, *Elusive Victory,* pp. 245-247; and Herzog, *The Arab-Israeli Wars,* pp. 151-153.

70. The Israelis hoped that King Hussein would keep Jordan out of the war, but when he committed to the fight on the afternoon of the 5th, the Israelis reacted. They had little choice for Israel was a mere 12 miles wide at its narrowest point, and a determined Jordanian attack could advance to Tel Aviv in a day. Israeli forces swept over most of the West Bank, and by the evening of the 4th day, King Hussein was attempting to bring about a cease-fire. Summarized from accounts in Barker, *Six Day War,* pp. 106-126; and Herzog, *The Arab-Israeli Wars,* pp. 167-183.

71. Barker, *Six Day War,* pp. 131-132; and Dupuy, *Elusive Victory,* pp. 319-321.

72. Israeli success in the Sinai was summarized from Barker, *Six Day War,* pp. 74-102; and Herzog, *The Arab-Israeli Wars,* pp. 154-166.

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104. In 1988 a British Special Air Service (SAS) Commando Team was ordered to Gibraltar to preempt an Irish Republican Army (IRA) bomb plot. Ultimately, the SAS team trailed and killed three IRA terrorists when they thought a bomb strike was imminent. As it turned out, the terrorists were unarmed and away from their bomb-laden auto when they were killed. The European Court of Human Rights took the case, and in 1995, seven years after the action, determined that the killings were unlawful. The court established that the terrorists had spirited a bomb into Gibraltar and intended to detonate it. Moreover, the court found the SAS use of force was an acceptable response to an imminent threat. The same court found the British government at fault for poor control of the operation. The court did not order any compensation to the families of the terrorists because it was clear that the IRA personnel intended to detonate their bomb. The incident brought significant pressure and loss of face on the British Government. This case highlights the importance of justifying preemptive strikes as well as the importance of developing rules of engagement (ROE) for forces executing preemptive strikes. See "Death on the Rock: Unlawful Killing," *The Economist,* Vol. 336, September 30, 1995, p. 67.

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106. As part of transformation, DOD has bought into the concept of network centric warfare and its ability to facilitate information dominance. The prioritization of C4ISR transformation initiatives that enhance the capabilities of those forces most likely to execute preemptive missions should be considered. The C4ISR network centric synergy demonstrated in the aforementioned Yemen strike may be the tip of the iceberg in the potential of these initiatives. See Michael E. O'Hanlen, "Modernizing and Transforming U.S. Forces: Alternative Paths To the Force of Tomorrow," in *QDR 2001 Strategy-Driven Choices for America's Security*, Michele A. Flournoy, ed., Washington, DC, 2001, pp. 299-301.

107. Not every preemptive act requires military action. Agencies, like the CIA, FBI, or Coast Guard will lead in some actions with the military in a support role. Some operations will be combined. Such cases will place a premium on interagency cooperation. Ambassadors and country teams will play critical roles in enabling preemption. For example, as advanced force SOF teams preposition for an impending preemption, a myriad of diplomatic and legal clearances will be required. Rapid execution of these activities may be critical for effective strikes. DoD, in conjunction with other critical government agencies, must work to streamline these activities. The Joint Interagency Coordination Group (JIACG) concept should be fostered and expanded as necessary to facilitate preemptive endeavors. Moreover, officers committed to interagency activities will have to possess the requisite acumen and skill sets for success in such an environment.

108. America will have to provide strong evidence to justify anticipatory self-defense. Such evidence will contribute to mitigating the risk that other states will attempt to mimic America's preemptive policy as an excuse for aggression. The dilemma here is the need for operational security before and after an operation balanced against the requirement for justification. The most convincing evidence of what U.S. forces did or did not target and what effects were achieved will often come from military sources. Conversely, to mitigate misinformation, America will have to block access to unsympathetic foreign intelligence services.

109. "(W)eaponry that can disable or destroy an enemy's capability to continue the warring effort without causing significant injury, excessive destruction of personal property, or widespread environmental damage." See David A. Morehouse, *Nonlethal Weapons, War Without Death*, Westport, CT, 1996, p. 12; and Barton Reppert, "War Without Fatalities," *Government Executive*, Vol. 33, May 2001, p. 47 (database on-line), available from ProQuest, accessed February 4, 2003.

110. Nonlethal weapons function in three domains. Counterpersonnel weapons temporarily incapacitate or diminish the abilities of personnel. Countermaterial devices render equipment inoperable, while countercapability

weapons involve the disabling or neutralization of infrastructure and facilities. Countercapability weapons could have powerful utility in attacks on WMD facilities. Nonlethal weapons cannot substitute for standard weaponry, when killing force is required. However, lethal force may not be required in every preemptive or preventative operation. Employing nonlethal means could pay great dividends in justifying attacks, reinforcing legitimacy, and demonstrating proportionality. This would be particularly useful in preemption where the potential for collateral casualties or damage is high, and in situations where the threat is not imminent in nature. The temporary incapacitation of terrorists to facilitate their apprehension should always be considered when feasible. Evidence so obtained may prove crucial to justifying action. Consider the SAS operation in Gibraltar (see note 102). If the commandos employed nonlethal weapons, they could have captured the IRA terrorists while saving their government great embarrassment. However, in this particular action, the British Government was sending a signal to the IRA—terrorists would be hunted and killed. Unfortunately, despite the enormous potential of nonlethal weapons, their military use has been limited. Led by the U.S. Marine Corps, the Joint Non-Lethal Weapons Directorate appears to be moving in the right direction, but its $25 million budget limits progress. DOD should consider an expansion of its nonlethal capabilities. See John B. Alexander, *Future War: Non-Lethal Weapons in Twenty-first Century Warfare*, New York, 1999, pp. 222-225; and "Non-Lethal Weapons to Gain Relevancy in Future Conflicts," *National Defense*, Vol. 86, March 2002, p. 30 (database on-line), available from ProQuest, accessed February 4, 2003.

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CHAPTER 4

U.S. ARMY EUROPE 2010: HARNESSING THE POTENTIAL OF NATO ENLARGEMENT

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The North Atlantic Treaty Organization's (NATO) enlargement in the post-Cold War era has altered fundamentally the political and military realities of a security structure that kept peace in Europe for over half-a-century. The inclusion of Poland, Hungary, and the Czech Republic in 1999 and the upcoming inclusion of seven new members in 2004 have both created new challenges and increased the opportunities for U.S. policy in the region. More nebulous objectives, including protection of human rights through peace operations in the Balkans, combating terrorism, ensuring peace and stability in the newly democratic states of Central and Eastern Europe, and preparing expeditionary forces for use outside of NATO territory, have replaced the *raison d'etre* of the alliance before 1989, to deter the Soviet Union. Furthermore, NATO consensus in any given crisis is problematical, as recent alliance disunity over policy towards Iraq has demonstrated. In response, the United States has had to adapt its strategy to shifting political realities engendered by the collapse of the Soviet Union, NATO's expansion, and the ongoing war against terrorism.

The stationing of the bulk of U.S. ground forces in Germany, once mandated by the Soviet threat, is no longer a military necessity. Indeed, there are compelling reasons to move U.S. ground forces into Eastern Europe: to help local military forces reach NATO interoperability standards, stabilize new democracies, gain better access to potential areas of instability, and acquire improved training areas, among others. Spreading American units among several European states is also an important hedge against risk should a host nation deny the use of its infrastructure to prevent U.S. forces stationed on its territory from deploying out-of-area. Although the United States should not transfer all its ground forces out of Germany, one division would be sufficient to support U.S. policy in Western Europe.[1] America's objectives have evolved

considerably from the early days of the alliance, when they were, according to Hastings Lord Ismay, NATO's first Secretary-General, "To keep the Russians out, the Americans in, and the Germans down." As a logical extension of NATO enlargement, the United States should station ground forces in Eastern Europe to serve better the needs of U.S. policy in the region. Poland's situation makes it the best choice to accept U.S. units immediately; Romania would be a potential candidate to receive American forces in the longer term. Such a restructuring would position the U.S. Army in Europe for more effective engagement in the area of greatest need for decades to come.

NATO Enlargement—A Political Imperative.

NATO enlargement has led to a defining moment in American foreign policy. The Clinton administration initiated NATO's first post-Cold War expansion, which brought Poland, Hungary, and the Czech Republic into the alliance under the national security strategy of Engagement and Enlargement.[2] The Bush administration's recently released national security strategy maintains the policy of expanding NATO to include the newly democratized nations of east and southeast Europe.[3] NATO extended invitations to join the alliance to a second round of seven nations (Estonia, Latvia, Lithuania, Slovenia, Slovakia, Bulgaria, and Romania) at the Prague summit in November 2002. The necessities of the war on terrorism and evolving political, economic, and military structures in Europe, however, have created conditions for the exploration of other options. If U.S. policy must rest on assembling coalitions of the willing and able as circumstances dictate, then one alternative would be the withdrawal of U.S. forces from Europe and the handover of European security matters to the members of the European Union under the auspices of the European Security and Defense Policy.[4] On the other hand, the United States could embrace a multitude of overlapping regional organizations in Europe with a view towards their rapid and broad expansion. Never before in alliance history have the choices been more varied, or the ramifications more important for the future security policy of the United States.

The Soviet Union's collapse in 1991 potentially signaled NATO's final chapter. With the Warsaw Pact's dissolution, NATO's founding purpose—to contain the Soviet Union—no longer existed. To maintain the alliance in these altered circumstances, the Clinton administration sought to expand NATO. In 1997, the North Atlantic Council extended offers of membership to Poland, Hungary, and the Czech Republic. The U.S. Department of State promulgated four justifications for that initiative:

- Enlargement would make NATO stronger and better able to achieve collective defense since more states would share the burden.
- Enlargement would increase the alliance's military capabilities by the addition of 200,000 Polish, Czech, and Hungarian troops.
- Enlargement would bolster stability and democracy in Central Europe.
- It would erase the Cold War's artificial dividing line.[5]

In fact, the resources necessary to defend NATO's new members, should that become necessary, would dwarf any military potential they might have brought into the alliance. Their armed forces largely consist of conscripts, possessing outdated Soviet equipment and little, if any, expeditionary capabilities. As one authority on NATO has remarked, "Until interoperability and modernization problems are improved, new members' value to collective defense and the new missions will remain dubious for some time. Increased membership does not equate to increased combat effectiveness, and a collection of disparate units does not make a cohesive force."[6] One must conclude that ultimately the reasons for NATO enlargement have always been political: to strengthen the newly democratic states of Central and Eastern Europe and demolish the Iron Curtain.[7]

In defense of the Clinton administration's policies, these political objectives still apply and, given the current military and economic weakness of Russia as well as its lack of territorial ambition, are obtainable with minimal additional U.S. military commitment. NATO enlargement has kept the alliance viable by making it relevant to European security in the post-Cold War era. As a proven

commodity, NATO remains a force for stability. It also possesses the ability to adapt to the post-Cold War world more quickly than other organizations such as the European Union (EU). "Extending the EU will help integrate the entire European continent, but EU enlargement also requires current and new members to make vast and complex adjustments in their regulatory regimes," the U.S. Department of State contends. "If NATO enlargement can proceed more quickly, why wait to further integrate Europe until tomato farmers in Central Europe start using the right kind of pesticide?"[8] What is left unspoken in such an argument, however, is key. The United States has the strongest voice in NATO, while it has none inside the European Union. Support for NATO enlargement and the continued vitality of the Euro-Atlantic alliance ensures America an enduring, preeminent role in European affairs.

The terrorist attacks of 2001 on the United States fundamentally altered America's conceptions of security in the 21st century. In the new environment, NATO must contribute to the war on terrorism, or Americans will increasingly see it as irrelevant to their security. In the wake of the attacks of 9/11, the North Atlantic Council invoked Article V of the Washington Treaty to underline that the terrorist assault was an attack on all alliance members. Nevertheless, in the resulting campaign against the Taliban in Afghanistan, NATO (somewhat reluctantly) stood on the sidelines. This was America's choice, since the operations envisioned in that distant country were hardly conducive to the participation of NATO allies that had done little to modernize their forces in the aftermath of the Soviet Union's collapse. Moreover, turning the campaign in Afghanistan over to NATO would have required the achievement of consensus among 18 disparate allies, a process that might have required months to resolve—as was the case with the intense discussions before the start of the recent war with Iraq. These decisions have called into question NATO's enduring role and, barring steps by leaders on both sides of the Atlantic to transform the alliance, raised serious concerns about its future.[9]

America's preeminent role in the world provides it the choice of either acting unilaterally or with coalitions of the "willing and able," as it has already done in the war on terrorism.[10] Although it currently has the political, military, and economic power to go

it alone, alliances and coalitions greatly enhance America's ability to achieve its objectives by extending legitimacy, providing crucial resources such as basing and overflight rights, and sending the message that the free world remains united. NATO is the most successful alliance in history, one that has kept the peace for over half-a-century in an area vital to America' national interest. Only recently, it has brought stability to the turbulent Balkans and reached out to promote military cooperation with partners in Eastern Europe and Central Asia. Moreover, NATO provides the United States with the strongest voice in European security affairs. Consequently, it would be unwise to allow the alliance to wither for a fleeting grasp at global hegemony. Indeed, the United States has a vested interest in ensuring NATO retains its role as the preeminent security organization in Europe, while taking care not to unnecessarily antagonize Russia. Yet the relationship with Russia, though delicate, is manageable, as the Prague summit and the mutual cooperation in the war on terrorism have underscored.[11]

Europeans have embraced the multitude of regional organizations that currently exist in order to achieve continued peace through enhanced collective security.[12] NATO enlargement in this context builds on a web of cooperative political, economic, and security arrangements and institutions, to include the Organization for Security and Cooperation in Europe, NATO's Partnership for Peace (PfP), the Euro-Atlantic Partnership Council, the European Union, the Organization for Economic Cooperation and Development, and the Council of Europe. NATO itself sees this cooperative approach as its core vision. Its landmark 1995 study of enlargement issues stated, "A strengthened Organization for Security and Cooperation in Europe, an enlarged NATO, an active North Atlantic Cooperation Council (the precursor to the Euro-Atlantic Partnership Council) and PfP would, together with other fora, form complementary parts of a broad, inclusive European security architecture, supporting the objective of an undivided Europe."[13] If handled properly, collective security arrangements can maintain security and stability at a reduced cost, compared to what individual states would have to bear in acting alone. The disadvantage of enlarging NATO across the European expanse, however, is vesting decisionmaking authority in an increasing number of states, potentially making consensus-

building more difficult, especially for controversial out-of-area operations.

Victory in the Cold War has given the West a brief window of opportunity to ensure the expansion of freedom across Europe. The addition of the Baltic States, Slovakia, Slovenia, Bulgaria, and Romania into NATO brings the alliance to the edges of Ukraine and the Russian Federation. The Ukraine has stated its desire to join NATO in the future, without Russian objections, although it has far to go before its aspiration would represent a serious possibility.[14] These are extraordinary accomplishments deserving continued American support. Consensus for action may be harder to reach in an enlarged NATO, but the new members will likely look to the United States as their benefactor, and thus would be more liable to support American goals within the alliance.[15] Expansion eastward brings NATO forces closer to potential hot spots in critical areas such as Central Asia and the Caspian basin, while expansion in the Balkans has created strategic deployment options by rail to the borders of the Middle East. The security that NATO provides will help to ensure the stability of the newly democratic states of Central and Eastern Europe. The restructuring undertaken in these areas since 1989—political and institutional reform, economic modernization, respect for human rights, and military transformation—will take decades, perhaps generations, to become permanent. An enlarged NATO, with the United States as its indispensable leader, will be a positive force for freedom in an undivided and democratic Europe—an enduring legacy of Allied victory in the Cold War.

The Impact of Russia and the Conventional Forces Agreement.

Although Russia has appeared ambivalent to NATO's expansion eastward, it has at times vigorously opposed enlargement, albeit powerless to prevent it.[16] NATO has attempted to placate the Russians through membership in the PfP and the creation of a Permanent Joint Council, which has given them, in the words of former President Bill Clinton, "a voice, if not a veto," in alliance affairs.[17] In the crisis over human rights violations in Kosovo and the resulting NATO air campaign against Serbia in 1999, however, the Russians suspended their participation in the Permanent Joint Council.[18] The events of

September 11, 2001, and the resulting cooperation of Russia and the United States in the war on terrorism, however, have gone far to reviving the strategic relationship between the two powers. As a result, the Permanent Joint Council has the potential to become an active forum for the discussion of mutual issues such as the war on terrorism, proliferation of weapons of mass destruction, and peace enforcement operations in Central Asia and the Balkans.

As a result of Conventional Forces in Europe (CFE) Treaty limitations, the permanent stationing of U.S. forces in the former areas of the Warsaw Pact would require Russian acquiescence. The CFE Treaty, signed in Paris on 19 November 1990, set strict numerical limits on five categories of conventional armaments—tanks, armored combat vehicles, artillery, combat aircraft, and attack helicopters—in the area between the Atlantic and the Urals. The express purpose was to prevent a surprise attack by either the Warsaw Pact or NATO on each other's territories.[19] The original treaty, however, assumed that the treaty states would remain allies. The dissolution of the Warsaw Pact and NATO's enlargement invalidated that assumption and nullified the balancing mechanism of the treaty.

As a consequence, Russia threatened to withdraw from the treaty when NATO expanded.[20] To address this issue, the thirty signatories signed an adaptation agreement in Istanbul on 18 November 1999. This agreement limits the positioning of ground forces by setting national and territorial ceilings, rather than group limits, on conventional forces from the Atlantic to the Urals.[21] The agreement, however, has yet to come into force due to Russia's violations of the Conventional Forces in Europe Treaty Flank Agreement of 1996, which set limits on forces in territory belonging to Russia, Norway, Iceland, Ukraine, Armenia, Azerbaijan, Georgia, Moldova, Turkey, Greece, Romania, and Bulgaria. Russia's positioning of forces in what it terms "the near abroad" and its continuing war in Chechnya will most likely prevent it from complying with its treaty obligations in the near future. For its part, NATO has been unwilling to pressure the Russians into compliance, most likely to maintain Russia's connection to the treaty and thus its military forces at least under ostensible constraints.

Under the provisions of the adaptation agreement, the national and territorial ceilings for 20 countries, including Russia and NATO's newest members, are one and the same. In effect, this requires the size of a country's armed forces to be lower than its national ceilings, if foreign forces are stationed within its borders. For Russia, long-opposed to NATO expansion, this constitutes an important limit on the ground forces and weapons NATO can deploy in former Warsaw Pact areas. Unless the new NATO members destroy tanks, armored personnel carriers, and artillery pieces in their national forces, the treaty prohibits NATO from stationing other ground forces on their territory, except for temporary deployments associated with training or crisis response.[22] Likewise, the NATO-Russia Founding Act of 1997 committed NATO to the collective defense of new alliance members "by ensuring the necessary interoperability, integration, and capability for reinforcement rather than by additional permanent stationing of substantial combat forces."[23]

For the United States to move forces permanently from Germany to these countries, therefore, would require either a reduction in their defense structure, which, given their bloated inventories of obsolete Soviet equipment, is likely, or a renegotiation of the adaptation agreement with Russia. The latter is also possible, if NATO displayed flexibility on Russian armaments in the southern flank region. Such a quid pro quo would have considerable political and strategic implications. In essence, NATO would trade greater stability in Central and Eastern Europe for a freer Russian hand on its own territory. Since, of the other treaty signatories, only the Ukraine has restrictions on the positioning of its own forces within its borders, allowing Russia to move forces within its national territory would merely recognize its rights as a sovereign state.

Accommodation of the stationing of U.S. forces in Central and Eastern Europe might not be as difficult as it seems. Given their historical baggage, both Germany and Russia share an interest in stabilizing the intervening region.[24] Basing U.S. forces in Poland is the surest way of accomplishing such a goal. In any case, the stationing of U.S. forces in Central and Eastern Europe would require extensive negotiations between the United States and Russia to prevent damage to their critical strategic relationship.

The Military Implications of NATO Enlargement.

Under Article V of the Washington Treaty, NATO members must treat an attack on one member state as an attack on all. Enlargement of the alliance into Central and Eastern Europe, therefore, adds to alliance responsibilities without necessarily adding to its capabilities. Given the current benign regional security environment, such a burden is acceptable in the short term. In the longer run, however, the creation of effective military capabilities in new member states is essential to the alliance's continued functioning. As NATO's mission and force structure evolve to encompass expeditionary warfare, military forces of the new allies must modernize in order to enable their participation in out-of-area operations. The new members must be net contributors to alliance defense, not merely recipients of a security windfall.

NATO instituted its PfP program in 1994 to develop relations with non-NATO members of the Organization for Security and Cooperation in Europe (OSCE), including prospective NATO allies. PfP played an important role in preparing the OSCE states to conduct cooperative peace enforcement and humanitarian military activities in the Balkans in the late 1990s. It strengthened the development of interoperable forces by involving partner states in planning and carrying out joint peacekeeping operations and familiarizing them with alliance structures and procedures.[25] The PfP planning and review process provides a forum for the development of military restructuring plans for individual member states. The results, incorporated in partner defense plans, reflect member state individual partnership programs, which demonstrate their capabilities for potential NATO membership.[26] Operations in both Bosnia and Kosovo have shown the potential for effective interoperability among NATO members, new and old, and their PfP associates. The deployment of the Implementation Force in 1996 required the establishment of reception facilities in Hungary, while forces in Bosnia included Russian, Polish, and Czech combat battalions, Hungarian and Romanian engineer battalions, and smaller contingents from the Baltic states and elsewhere.[27]

As a result of lessons learned from the initial round of NATO enlargement, the allies agreed upon a Membership Action Plan

(MAP) at the NATO Washington Summit in April 1999. The MAP defined for NATO aspirants the requirements they would need to accomplish, prior to acceptance in the alliance. It refined criteria first specified by NATO's landmark 1995 study on enlargement issues. Its purpose was to prepare new members to be net contributors to the alliance's security upon entry.[28] Significantly, NATO accepted all but two of the states committed to the MAP at the Prague summit in November 2002.

NATO also recognized the possible need to station its forces on the territory of new member states, one of many alternatives explored in its 1995 study. Other than permanent stationing, options included prepositioning of equipment, routine and frequent rotation of forces for training, and the dual basing of air assets. "Decisions on the stationing of Allies' conventional forces on the territory of new members," the report concluded, "will have to be taken by the Alliance in the light of the benefits both to the Alliance as a whole and to particular new members, the military advantages of such a presence, the Alliance's military capacity for rapid and effective reinforcement, the views of the new members concerned, the cost of possible military options, and the wider political and strategic impact."[29] Given the costs associated with other options, in practice the alliance has relied on occasional multinational training and exercises to familiarize NATO forces with the terrain and operating conditions on the territory of new members. As a result, the achievement of true interoperability has suffered and the forces of Poland, Hungary, and the Czech Republic have had difficulty integrating into the military structure of NATO. These three NATO members must address inadequate field training, lack of English language proficiency, and the doctrinal legacy of the Warsaw Pact before their armed forces can function as full alliance partners.[30]

In assessing the costs of NATO enlargement, the Department of Defense examined both initial required capabilities in the new member states and longer-term improvements in their force structures to ensure that they were postured to meet NATO military commitments. Initial capabilities focused on low-cost, high payoff enhancements to improve interoperability, particularly in command and control networks and air control and logistics capabilities. Mature capabilities included enhanced interoperability, creation

of transportation and logistics networks to accommodate NATO reinforcements, replacement of aging equipment, and restructuring of armed forces to enable them to deploy and operate in the full range of alliance missions.[31] The creation of modernized, deployable forces in new member states would increase NATO's relevance in an uncertain world by enhancing force-projection capabilities for crisis management, peacemaking, and the war on terrorism. Regrettably, once the ink was dry on the agreement to expand the alliance, the motivation of new member states to expend the resources necessary to restructure their armed forces to achieve these goals lessened dramatically.[32] If these states are to become full functioning military members of NATO in a broad array of missions to include out-of-area deployments, they will need assistance in education, training, and restructuring their forces for the future. These are precisely the areas in which the U.S. European Command, with forward stationed forces in Western Europe, is postured—albeit imperfectly—to assist.

Theater Security Cooperation in USEUCOM.

Given the political imperative of alliance enlargement, how can U.S. European Command best posture its permanently stationed ground forces to foster stability and security in the new NATO? The admission of the vast majority of Central and Eastern European nations into NATO has extended American military commitments up to the borders of the now-defunct Soviet Union, an expansion as serious in scope as the commitment of U.S. forces to the defense of Western Europe in 1951. U.S. ground forces are the most powerful tool at the disposal of the President to assure allies, deter conflict, and show the resolve of the United States to sustain its commitments to its NATO partners. Overseas bases also give temporarily deployed U.S. forces access to infrastructure in critical regions of the world and can enhance power projection in crises.[33] U.S. National Military Strategy also calls for the evolution of Theater Security Cooperation to ensure that the United States remains fully engaged overseas to promote interoperability with allies and coalition partners, assure access to critical strategic regions, enhance the development of professional civil-military relationships in emerging democracies, and create regional environments more conducive to U.S. interests.[34]

The accomplishment of these tasks is important to the achievement of U.S. long-term interests in the European region.

U.S. European Command devised its strategy of Readiness and Engagement to attain U.S. military objectives in its area of responsibility.[35] The primary concern of U.S. European Command is to maintain the readiness of its military forces to project force when and where needed. Beyond this imperative, however, U.S. European Command uses its military forces to engage in theater security cooperation activities with other NATO and PfP forces to enhance interoperability, ensure access to critical infrastructure in key areas such as Hungary (the Balkans) and Turkey (the Middle East), create a condition of transparency in military affairs on the European continent, and demonstrate to newly emerging democracies the role of armed forces in a free society. Theater Security Cooperation covers a broad array of activities to include training exercises, conferences, and exchanges, but common to all is the imperative of face-to-face, personal interaction among participants. The recent inclusion of the Russian Federation in the U.S. European Command area of responsibility has significant implications for theater security cooperation. European security will be imperfect lacking Russian involvement in continental affairs, as the important contributions of Russian units to stability in Bosnia and Kosovo have demonstrated. As a result of the expansion of the area of responsibility, the demands on U.S. European Command forces to participate in engagement activities with the Russian military will increase in the near future, which will result in even more time away from home station for soldiers and units involved.

Interoperability has been an increasingly difficult problem for NATO as U.S. forces transform, while European military capabilities have stagnated due to lack of funding since the end of the Cold War. Only half of NATO member states currently achieve the alliance benchmark of 2 percent of gross domestic product (GDP) allocated to defense spending, and only the defense budgets of Turkey, Greece, Poland, and the United States exceed 3 percent of GDP.[36] The problem is particularly acute in the armed forces of the former Warsaw Pact, many of which are either now part of or will soon join the alliance. Theoretically, years of participation by prospective allies in the PfP and NATO's Membership Action Plan—designed specifically to

bring future members up to Western military standards—should have alleviated the greatest concerns about the capabilities of their armed forces and potential to strengthen the alliance. In fact, all of the new NATO allies are unprepared in varying degrees to conduct modern military operations in conjunction with U.S. and Western European forces.[37] "What is needed," writes General Frederick W. Kroesen, a former commander of the United States Army in Europe, "primarily, is recognition and support for a long-term program that will address and reconcile the dilemmas of coalition operations to assure NATO compatibility of all the forces of all of the nations of the alliance."[38] Given the infrequent opportunities for the new NATO partners to train with Western forces, interoperability problems are likely to persist in the future as the militaries of Central and Eastern Europe proceed slowly on the course of modernization and full integration into NATO structures.

Aside from episodic out-of-area deployments for contingency operations, the likely missions for U.S. forces in Europe over the next two decades will consist of shaping the environment through the integration of new NATO members and PfP states, providing humanitarian assistance in the region, and participation in peacekeeping and peacemaking operations.[39] Beyond these tasks, combined training is critical to prepare the rest of NATO for expeditionary warfare. U.S. European Command must take the lead now to ensure that NATO militaries are capable of cooperating with U.S. forces in the contemporary operating environment of the future.

These military objectives are only partially served with the current disposition of ground forces in Europe. In the absence of permanently stationed forces in the recently opened areas of Central and Eastern Europe, U.S. forces must temporarily deploy into these regions to conduct routine bilateral and multilateral exercises. Moreover, since the end of the Cold War, readiness training in U.S. Army Europe has been hampered by increasingly restrictive policies in Germany, based entirely on environmental and political considerations rather than military necessity. Restrictions on maneuver and gunnery exercises in local training areas and at the more extensive complexes in Hohenfels and Grafenwöhr have hampered the readiness training of U.S. units since the end of the

Cold War. Such restrictions are growing tighter. Basing units on the territory of the new allies would alleviate these drawbacks of current force locations, with minimal downside in terms of readiness. Under an expeditionary posture, geographic locations such as Germany are not as important as the capability (airports and seaports) to deploy quickly. In fact, having units separated geographically can enhance deployment timelines by reducing bottlenecks.

Efficient Basing Initiatives in U.S. Army Europe.

A decade after the end of the Cold War, U.S. European Command continues to endeavor to close and consolidate installations throughout its theater. Simply put, the poor facilities in much of Germany, many of World War II vintage, are not cost effective. Furthermore, while modern U.S. forces languish in dilapidated bases that struggle to meet basic needs (such as paved motor pools with adequate heating, lighting, and overhead lift), the host nation forces of the Bundeswehr enjoy contemporary facilities. If the United States is to remain engaged in Europe over the long haul, new facilities are essential. Building new facilities is less expensive in the long run than continually renovating outdated, dilapidated structures. Given this imperative, movement to the territory of the new NATO members is no more expensive than building new bases in Germany, and may be less expensive given low-priced labor and materials available in Eastern Europe. Furthermore, if the United States builds its new bases contiguous to available maneuver areas and gunnery ranges, rail transportation costs will significantly decline.

U.S. Army Europe developed its current Efficient Basing Initiatives with many of the above considerations in mind. These initiatives seek to consolidate brigade-sized forces at Grafenwöhr, Germany, and Vincenza, Italy—locations with excellent training facilities and which are well-postured for current and emerging threats in Southeastern Europe, the Middle East, and Africa. United States Army Europe's Efficient Basing South initiative consists of adding a second airborne battalion to the 173rd Airborne Brigade in Italy by 2004, which will provide the command with enhanced capabilities, increase flexibility, and address the requirement for additional rapid-deployment forces in the region. The Efficient Basing East

initiative is currently in the design phase, with $25 million already appropriated by Congress in the FY '00 Supplemental. Efficient Basing East represents an initiative to enhance readiness and gain efficiencies by consolidating a brigade combat team from thirteen installations to a single location in Grafenwöhr, Germany. Doing so will facilitate command and control, lower transportation costs by eliminating the need to use rail transportation for routine gunnery qualification, improve access to training areas, and reduce annual base operations costs by over $39 million.[40]

U.S. European Command can apply efficient basing concepts to the transfer of U.S. forces to Central and Eastern Europe as well. While retaining U.S. forces in Germany at the excellent training facilities in Vilseck, Grafenwöhr, and Hohenfels, the command could station brigade combat teams in Central and Eastern Europe at consolidated locations to ease command and control, increase access to first-rate training areas, improve cost efficiencies, and enhance quality of life for soldiers and their families. The Army has already announced the rotation of a Stryker Brigade Combat Team to Baumholder, Germany, in 2007. This would be an ideal time to consider moving it instead to a base further east—to Poland.

Basing U.S. Forces in Central and Eastern Europe.

Two major military reasons to base American ground forces in Central and Eastern Europe are to improve the interoperability of the military forces among the newest NATO allies and to increase the readiness of U.S. forces by taking advantage of the extensive training facilities in the area. Alliance forces achieve interoperability primarily through joint participation in field training exercises, which familiarizes participants with NATO planning procedures and command and control processes, while exposing individual soldiers to Western concepts such as a strong noncommissioned officer corps. The former militaries of the Warsaw Pact are not familiar with Western concepts such as the military decisionmaking process, five-paragraph field order, or troop leading procedures.[41] Individual classroom training will not suffice to ingrain these concepts into these armed forces. Practical application in a field environment must be part of the training regimen. The continuous

physical presence of Western military forces in the area will allow frequent interaction among leaders and soldiers, who must overcome significant interoperability challenges before the new allies can have a substantial role in NATO operations.

Another obstacle to interoperability is the lack of English language training among the militaries of the new NATO allies. Stationing U.S. forces in Central and Eastern Europe would increase the exposure of regional military forces to English through daily personal contacts and mass media such as the Armed Forces Network. A by-product of such immersion would be the example set by American military personnel as to the role of the military in a free society and the importance of the safeguarding of democratic values.[42]

U.S. forces based in Central and Eastern Europe can take advantage of the large training areas in the region to maintain readiness. As weapons ranges increase and forces disperse to protect themselves against massed firepower and attacks by precision weapons, the corresponding need to train across vast distances will also intensify. Existing NATO training facilities in Germany in many cases cannot accommodate such requirements. Accordingly, the pressure to use areas in Central and Eastern Europe for training will only increase over time, as increasingly severe restrictions limit the utility of existing training areas in Western Europe. While providing good stewardship of the environment, U.S. forces can still garner extensive training benefits from the use of these facilities compared to the limitations in force in Germany. Efforts to utilize the vast training areas of the former Warsaw Pact nations are already underway. The massive Drawsko-Pomorskie ranges in Poland have hosted brigade-level NATO exercises for 6 years.[43] U.S. forces permanently stationed in the country could use these areas on a routine basis, greatly enhancing their readiness while improving the interoperability of the Polish Army through combined training exercises. Host countries would not only benefit from increased opportunities for interoperability training; Western armies have paid handsomely for the privilege of using such training facilities—an infusion of much-needed hard currency for the struggling economies of the region.[44]

Strategic Assessment of the New NATO Allies.

Given the limited assets of U.S. Army Europe, Russian and allied sensitivities, and the varying military potential and facilities of the ten new NATO members, the selection of a new host nation or nations in which to station American forces is a complicated matter. Criteria for selection should include access to airports and seaports for strategic mobility, the military potential of the host nation armed forces, quality of host nation facilities (training areas, motor pools, barracks, housing, etc.), and access to areas of strategic concern (Balkans, Middle East, Caspian basin, and the Mediterranean littoral). Of paramount concern, of course, is the host nation's attitude towards the stationing of American troops on its territory—critical to ensuring public support for any potential out-of-area deployments.

U.S. forces based in Central and Eastern Europe would require airports and seaports to ensure their availability for out-of-area contingency operations. Ideally, airports need to be capable of handling the largest U.S. airlifter, the C-5 Galaxy, with its fully-loaded take-off distance of 3,720 meters. Poland has international airports at Warsaw (Okecie airport) and Krakow (Balice airport) that meet the needs of the C-5, along with major seaports on the Baltic at Gdansk, Gdynia, and Szczecin.[45] Romania has a large international airport (Otopeni airport) at Bucharest that meets the needs of the C-5, along with seaports along the Black Sea at Constanta, Mangalia, and Sulina.[46] In Hungary, Budapest (Ferihegy airport) also meets the needs of the C-5, although forces would have to travel by road or rail outside the country to ocean-going ports; travel down the Danube River by barge is possible. However, the Czech Republic, Bulgaria, Slovakia, Slovenia, and the Baltic States have no airports capable of meeting the needs of the C-5.

Of the new NATO allies, Poland has by far the largest and most useful training areas. It possesses two large training areas of 109,000 acres at Drawsko-Pomorskie and Zagan, each of which can easily accommodate brigade-level forces.[47] The Polish government has been forthcoming in allowing NATO forces to use these facilities to conduct training not possible in the more crowded and controlled conditions of Western Europe. Furthermore, Polish forces already routinely train with American and Western European militaries in large-scale exercises such as "Victory Strike."

There is a vast difference in the military potential among the ten new members of NATO. Only half of these states currently meet the NATO defense spending benchmark of 2 percent of GDP, although to be fair, many current NATO allies also fail to meet the standard as well. Table 1 details the defense expenditures of the new allies, along with the strength of their armed forces and inventory of armored vehicles and artillery (figures current as of 2000).[48] Clearly, basing an American brigade in the Baltic States or Slovenia would dwarf the capabilities of those counties militarily. On the other hand, such a unit stationed in Poland, Romania, or Bulgaria could be of great value in assisting the armed forces of those nations to meet NATO interoperability standards through frequent training exercises and other interaction.

	Defense Expenditure (U.S. $Million)	Expenditure as percent of GDP	Armed Forces Strength	Armored Vehicles	Artillery
Bulgaria	324	2.65	75,900	5,458	1,858
Czech Rep.	1270	1.99	58,200	2,289	675
Estonia	84	1.60	4,800	39	19
Hungary	698	1.49	55,757	2,001	613
Latvia	170	1.05	3,360	15	26
Lithuania	183	1.70	10,771	105	0
Poland	3600	3.60	240,650	4,583	1,350
Romania	707	2.10	172,000	2,775	1,031
Slovakia	311	2.06	42,880	1,452	363
Slovenia	300	1.55	9,820	178	66

Table 1. Military Strength of New NATO Member States.

The second round of NATO expansion has created an alliance "land bridge" to Turkey and the Middle East, along with greater access to the Balkans and the Caspian basin. The inclusion of Romania and Bulgaria postures NATO for increased access to these areas. Although economic problems and the difficulties of defense reform will prevent these two nations from realizing an adequate

(by NATO standards) military potential in this decade, in the longer term they may be of great value to alliance activities along NATO's southern rim.[49] Given its strategic position, large military force, and useful strategic transportation nodes, Romania would be a logical country in which to base a U.S. brigade in the more distant future.

Of the new NATO allies, Poland exhibits by far the most consistent support for its military forces. Despite universal conscription for all males and heavy defense expenditures to replace outdated Warsaw Pact equipment, opinion polls show the Polish armed forces regularly enjoying more popularity than even the Catholic church.[50] U.S. forces based in Poland would receive a large degree of support given the importance that the Polish people place on defense issues and their role in NATO, not to mention the economic boost that would naturally follow the infusion of American currency into the Polish economy. One recent poll asked the Polish people to name countries they consider as "friends." Fully 50 percent put the United States at the top of the list.[51] As for their acceptance of the idea of stationing U.S. forces in Poland, one poll showed a 72 percent approval rating, another an impressive 89 percent.[52]

The Argument for Poland.

Given the size of its armed forces, government support for military spending and reform, and its central position between Germany and Russia, Poland is the most important of the new NATO members. While similar in size to Spain, Poland will soon dwarf most other NATO allies (new or old) in strategic importance and military contributions to the alliance. In 1997 Poland embarked on a 15-year modernization plan, focused on improving personnel and equipment earmarked for NATO's rapid reaction forces. The plan consisted of reducing army strength from 220,000 to 180,000 soldiers, shortening conscription to 12 months, and providing a stable defense budget pegged at 2.4 percent of GDP.[53] That same year Poland was the single largest contributor to United Nations Peacekeeping forces worldwide.[54] One commentator concludes:

> Few experts doubt Poland's ability and determination to become a valuable and salient member of the Alliance, given also the very high level of Polish public support and readiness to bear

> increased defense spending. The Czech Republic and Hungary are in a different league—further behind the NATO targets, with a weaker public support and shakier government determination to reach the targets of military modernization.[55]

Given increased U.S. assistance in the form of a useful and visible presence in the country, Poland has the capability of becoming one of America's most valuable allies in operations not just in Europe, but, given its demonstrated commitment to peacekeeping operations, worldwide as well.

There is much work to be done, however. The intellectual legacies of Soviet rule provide intractable barriers to military reform, a struggle that may take generations to resolve.[56] One of the major weaknesses of Central and East European militaries, for instance, is a lack of a credible noncommissioned officer corps. The new NATO allies require Western assistance to develop noncommissioned training and education systems. Although all Central and Eastern European countries have leveraged PfP training to improve their militaries, proficiency has not yet reached NATO standards. Even the most competent military organizations have barely adequate capabilities to operate in conjunction with NATO forces at both unit level and in higher level staffs.[57] Poland, for instance, keeps its forces earmarked for NATO at higher readiness to facilitate their participation in exercises, peacekeeping, and operations only by stripping resources from the remainder of its forces.

David Glantz, one of the foremost experts on the capabilities of Central and Eastern Europe militaries, concludes, "The most critical training need is for greater U.S.-partner training cooperation aimed at promoting greater interoperability between [sic] NATO, U.S., and partner country forces."[58] Exercises are the most valuable dimension of U.S. training assistance to the new NATO allies, but lack of units and increased operating tempo for contingency operations have limited the number conducted in recent years. "It is clear that the U.S. will have to increase exercise program resources if the program is to satisfy its full potential," Glantz concludes. "If not, the program will shrink, and the U.S. will have lost the benefits of one of its premier and most valuable engagement tools."[59]

President Bush and President Aleksander Kwasniewski of Poland have begun the process of fostering closer military ties between their

two countries. In a recent state visit in June 2002, the two leaders launched an American-Polish military cooperation initiative. The initiative reflects the strategic importance of the Polish-American relationship and recognizes the critical role the United States must play in shaping Polish military transformation. A Military Cooperation Working Group is currently assessing options, which will include enhanced unit partnerships between U.S. Army Europe units and selected Polish units, among other potential projects.[60] This forum provides an opportunity to discuss what could become the most valuable military cooperation project in Eastern Europe—the stationing of a U.S. brigade in Poland.

While an expensive proposition, the United States would not have to pay the entire cost of relocating a ground brigade in Poland. NATO's infrastructure budget, known as the NATO Security Investment Program, allows the alliance to underwrite the cost of support facilities. The NATO Security Investment Program funds operational facilities in the fulfillment NATO commitments that exceed a country's national defense requirements. All U.S. operational facilities in Europe are part of the American contribution to NATO; therefore, they are all eligible for NATO Security Investment Program funding. The U.S. share of these costs is 25 percent.[61] To reduce costs, the U.S. Army could implement a unit rotation system to its Polish base, which would eliminate the need to build family housing and support facilities in the area. This option is contingent upon a larger reform of the U.S. Army personnel system, however, which is beyond the scope of this chapter.

Conclusion.

In the strategic landscape of post-Cold War Europe, the inclusion of ten new nations of Central and Eastern Europe in NATO is a watershed event that has critical political and security implications for the future of the alliance. As NATO's mission and center of gravity have shifted, so must U.S. forces in Europe adapt their engagement strategy to take into account the shifting political realities on the continent. A vital need is for the United States and its Western European allies to assist new NATO members in becoming significant partners in a military sense to match current

political rhetoric that has so far been the sole justification for alliance expansion. To this end, stationing U.S. ground brigades in Central and Eastern Europe would help bring local military forces up to NATO training and interoperability standards, stabilize still fragile democracies, provide an economic boost to nascent market economies, position U.S. forces in proximity to potential areas of instability, and provide access to excellent training areas. In the next decade, Poland is the logical choice to accept the stationing of a U.S. brigade due to its strategic position between Germany and Russia, excellent training facilities, air and sea ports, military significance, and public support for defense. In the longer term, Romania might be a candidate for stationing of an additional U.S. brigade, provided its defense reforms proceed apace. Both of these nations would view a U.S. presence on their territory as a valuable symbol of solidarity, one that will reap dividends in the future as the United States seeks reliable partners for operations around the world.

A revised basing plan, built on the Efficient Basing Initiatives already in progress, would position U.S. Army Europe for effective engagement in Europe for decades to come. To make this imperative a reality, the following recommendations are necessary:

- U.S. European Command should work through the Joint Staff and Office of the Secretary of Defense to convene an Interagency Policy Coordination Committee to design a politico-military plan to address issues concerning basing of U.S. forces in Eastern Europe. The result should be a diplomatic plan to convince NATO of the benefits of stationing a U.S. brigade in Poland, while alleviating Russian concerns.

- U.S. European Command, under the auspices of the State Department and Department of Defense, should coordinate with the Polish government to survey potential areas in which to station a U.S. brigade, to include air and sea ports available for use during contingency operations, with a follow-on study to be conducted in Romania.

- Commander, U.S. European Command should work through the Office of the Secretary of Defense to submit testimony to Congress regarding the benefits and long-term cost-effectiveness of basing a U.S. brigade in Poland. This is crucial since Congress must approve any funding for the facilities necessary to make such a move a reality.

- U.S. European Command, the Office of the Secretary of Defense, and the Department of the Army should leverage the movement of a Stryker brigade to Europe in 2007 to convince Congress to approve funding now for construction of new facilities in Poland, rather than stationing the brigade in the currently planned location (Baumholder).

The stationing of a U.S. brigade in Poland would enhance NATO and U.S. military readiness, while providing greater stability to Central and Eastern Europe. It is a project worth pursuing today for the dividends it will pay well into the future.

Europe is at peace today, but one should not be under any illusion that the condition is permanent. The power and influence of the United States in European affairs has suppressed national rivalry and hostilities, but absent American involvement, great power competition would sooner or later resume in unchecked fashion. The enlargement of NATO has brought more nations than ever before into a common security alliance that has provided a forum for resolving disagreements and fashioning a mutual defense policy to keep the continent at peace. To remain a functioning alliance, however, NATO must adapt to the security needs of the 21st century, or it will be seen as irrelevant and wither into insignificance. NATO must ensure that its new members become net contributors to alliance needs, not just consumers of a free security umbrella. Either the United States and its European allies assist the new NATO allies in becoming militarily relevant, or they will watch the alliance atrophy into a genteel club where talk is more important that action. Stationing of U.S. forces on the territory of the new allies is a key move that will prevent degradation of the alliance. Failure to act will result in a squandered opportunity to solidify the victory won at so great a cost during the Cold War.

ENDNOTES - CHAPTER 4

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CHAPTER 5

CREATING STRATEGIC AGILITY IN NORTHEAST ASIA

Lieutenant Colonel Jonathan B. Hunter

> Preparing for the future will require new ways of thinking, and the development of forces and capabilities that can adapt quickly to new challenges and unexpected circumstances. The ability to adapt will be critical in a world defined by surprise and uncertainty.
>
> Donald H. Rumsfeld[1]

Introduction.

Fifty-two years ago the United States deployed combat forces to the Republic of Korea (ROK) to defend that country from an invasion by North Korea. Today over 37,000 U.S. troops remain deployed in Korea to deter North Korean aggression.[2] Although the U.S. commitment to the defense of Korea has not changed in 50 years, Northeast Asia has changed dramatically. The region has increased in strategic significance to the United States, and the future stability of this region is a vital interest of the United States. Despite the regional changes, the American military presence in Korea has focused solely on defending South Korea. The only other U.S. military presence in the region is in Japan and has focused primarily on defense of Japan. America's defense structures in the region have not evolved to meet the development and associated emerging strategic challenges. Meanwhile, there is a growing resentment of this military presence in the region. The U.S. commitment is unquestioned. However, it appears the United States may be confronting a strategic policy and military strategy disconnect in Northeast Asia. The strategic challenges in the region demand more regional strategic agility than exists with the current U.S. military force structure in Northeast Asia. Thus, a change in organization, roles, and missions of U.S. forces in South Korea is the most suitable, feasible, and acceptable way for the U.S. to address these new challenges.

Regional Overview.

Northeast Asia comprises five nations: Japan, South Korea, North Korea, China, and the eastern portions of Russia.[3] The Northeast Asia region encompasses the majority of the economic and military power of Asia, and the future stability of this region is a vital interest of the United States.[4]

South Korea lies at the geographic center of the region and has long been a cultural crossroads in Asia. It represents a historic land bridge from Japan to China. It is largely this geographic position that elevates its strategic importance[5]. In less than 50 years, it has overcome the devastation of war to become a world economic power, ranking 13th in world gross domestic product.[6] Strong and continuous U.S. diplomatic, economic, and military support has bolstered this success. Today South Korea remains well-positioned to continue its economic growth.[7] Korean goods are competitive on the world market, and internal fiscal policies make Korea attractive to international investment.[8] South Korea appears to aim at becoming the facilitator of a Northeast Asian economic community that, if successful, would dwarf the European Union.[9] Nevertheless, the economy faces potential threats; an attack from the North, the impact on the South of an internal collapse in North Korea, and the potential economic fallout from Chinese/Japanese economic competition. These scenarios have implications for the U.S. economy as well.

The Korean/U.S. alliance remains instrumental to the nation's economic and democratic success, and is the most significant deterrent to North Korea. For many years the South Koreans viewed North Korea as a direct threat to their nation, and thus they fielded the world's sixth largest military force to defend their nation.[10] The Koreans accepted the impact of a large American military presence as a necessary price of maintaining their freedom. Today, however, there is a growing anti-American sentiment in Korea. Many Koreans consider the United States to be domineering and paternalistic. The new South Korean President, Roh Moo-Hyun, campaigned on an anti-American platform and promised that Korea would never "kowtow" to the United States. Moreover, he commented that the 50-year-old alliance needed to "mature and advance."[11]

The present anti-American sentiment rests on a combination of the Asian philosophy of self reliance, the perception of their being treated as the junior partner in the alliance, and the maturation of South Korea's defense capabilities. There is also great resentment of America's hard line approach toward North Korea that appears at odds with South Koreas policy of engagement toward North Korea known as the "Sunshine Policy." Many in the South perceive the recent provocative actions by the North as resulting from this U.S. hard-line policy.[12] South Korean strategic objectives are the peaceful renunciation of the peninsula, economic prosperity in the south, and increased independent political influence in the region. While South Korea's pride envisions a self-sufficient Korea that will not rely on U.S. forces, at least for the near term, U.S. military forces in Korea are essential to South Korea's defense.

North Korea, on the other hand, represents the classic example of a failed economy, with a political system characterized by a bizarre personality cult, reinforced by brainwashing and brutal repression by a fanatical military.[13] It is the antithesis of the other nations of Northeast Asia. The despotic government focuses the nation's efforts on a military first policy, while its citizens starve. Kim Chong Il is a reclusive, unpredictable, frightening dictator, who remains one of the world's most significant threats to peace and stability.[14] A recent Japanese assessment describes him as "shrewd and intelligent enough to outwit and outmaneuver the opponent."[15]

North Korea retains an ambition of becoming a world power and has not given up on its ambition to dominate the Korean Peninsula. In the midst of economic collapse, it still fields the world's fifth largest military force.[16] This force is still very capable, with 70 percent of its army deployed within 90 miles of the Demilitarized Zone, which separates North and South Korea.[17] Most threatening are the artillery forces deployed within range of Seoul. Analysts estimate North Korean artillery units can fire up to 500,000 rounds per hour against South Korea, which would result in tremendous civilian casualties, especially in the densely populated Seoul area.[18] Moreover, North Korea claims to possess at least two nuclear weapons and has announced its withdrawal from the international nonproliferation treaty. Its long range missile program is also aggressive with proven capability to range any of the Northeast Asian nations and even

the United States.[19] North Korea also possesses a robust chemical weapons stockpile and most likely a biological weapons program as well.

Diplomatic overtures to South Korea in 2000 gave optimists hope that North Korea had abandoned its long-stated goal of reunifying Korea under North Korea. Whether this goal remains is a subject of great debate. Although Kim has indicated that he might perhaps accept U.S. Force presence during the initial stages of reunification, he will eventually demand withdrawal of all U.S. forces to facilitate his long term objectives.[20] Nevertheless, North Korea blames the United States for its internal challenges, and international isolation. The future of North Korea has great strategic implications for the United States. An attack by the North would immediately embroil the United States in a major conflict. An internal collapse in the North would require massive humanitarian support and create economic conditions that would threaten the South Korean economy. Kim Chong Il's relationship with China and Russia continues to represent a challenge for the United States in the region as well.

China is emerging as a superpower with the economic, military, and manpower potential to become a peer competitor of the United States. The Chinese field the world's largest military force, are a nuclear power, and posses the world's sixth largest gross domestic product. They seek to create hegemony and regional leadership in Northeast Asia, one challenged only by the United States. Some academics believe conflict between the United States and China is inevitable as each pursue their strategic goals in the region.[21]

China remains North Korea's largest trading partner, providing aid in excess of $470 million annually. It also provides over 70 percent of North Koreas fuel imports and a third of all grain imports.[22] Despite this, China's commitment to North Korea is waning. The Chinese have a growing diplomatic and economic relationship with South Korea, one threatened by North Korea's strategic ambitions. Moreover, China has grown increasingly frustrated with the internal situation within North Korea, one that has resulted in a refugee flow across the Yalu into its already troubled northeastern border region. Aid to North Korea is an economic burden as well. Most troubling to China is the potential of war on the Korean peninsula. Such a war would eventually result in a U.S.-supported South Korean victory,

closer ties between the United States, South Korea, and Japan, and continued U.S. military presence in the region—exactly what the Chinese want to avoid. Additionally the development of nuclear weapons by North Korea disrupts the balance of power in the region and risks igniting a nuclear arms race. It could also push Japan into developing nuclear weapons—something the Chinese desperately want to avoid.

Stability on the Korean peninsula benefits Chinese long-term national goals. Perhaps more importantly, China sees U.S. military presence as a balance that keeps Japan from expanding its military capability beyond the present self-defense capabilities. On the other hand, the North Korean situation does give China strategic leverage, and serves as a subtle foil against the United States over the Taiwan issue. China may prefer a more stable North Korea, but the continued existence of a separate North Korean nation, nonaligned with the west, as a limiting force to external influences on the peninsula, represents a strategic advantage for China.[23]

Japan is one of the world's leading economic powers. Despite recent setbacks, it still has the world's second largest gross domestic product, behind that of the United States.[24] The two nations' economies are inextricably entwined. Militarily Japan has begun to move beyond its post-World War II self-imposed limitation of military power. It is seeking an evolving security role in Northeast Asia, while actively involving itself in a long standing regional land dispute with Russia over the Kurile Islands.[25]

Japanese strategic goals focus around the need to maintain its position as a global player with significant influence. While it has influence today, there are internal challenges that may threaten its position in the future. Japan's economic power has been singularly responsible for its global position and influence, but that power has displayed some weaknesses in recent years.[26] The effect is felt outside Japan as well, with the weakness of the yen impacting the global financial markets. Japanese efforts to battle deflation led to a weak yen, which could lead to competitive depreciation in the region, eventually forcing China and South Korea to cheapen their currencies to remain competitive in the export market.[27] These moves have caused serious repercussions for the American economy. Even with a strong Japanese economy, China and South Korea are

potential challengers to Japanese regional economic hegemony.

Japan has limited its military power to only self-defense capabilities, relying on its relationship with the United States to ensure the nation's defense. Today the Japanese are wrestling with this approach, and many are concerned with the lack of a legitimate national military element of power. If Japanese economic influence becomes threatened, there may be a greater need for military power. With a possible Korean reunification on the horizon, the Japanese remain worried about the future of U.S. forces in the region. A withdrawal of U.S. forces from Korea would present a significant threat. The Japanese are asking, "What should a nation do to ensure the security of its citizens? In light of world peace and stability to the security and prosperity of Japan . . . what concrete measure should be taken to further strengthen our contribution to international efforts to resolve conflicts?"[28] This is a call for greater Japanese military participation in regional and international efforts at resolving conflicts. Prime Minister Koizumi has urged modification of the Self-Defense Forces charter so they can perform "territorial security missions" and participate in international crisis response actions.[29] However, such a shift from self-defense, and the associated perception of a rearming Japan, may only add to the regional tensions.

Too many overlook Russia as a Northeast Asian nation, but, in fact, it remains an influential regional power with strategic ambitions. Russia borders China, North Korea, and Japan's islands. Although challenged economically, it still ranks tenth in gross domestic product, fields the world's third largest military, and has the world's largest nuclear force.[30] During the Cold War, the Soviet Union was a key supporter of North Korea, and it still maintains close ties. North Korea has often played China and Russia against each other to achieve its objectives. In the immediate aftermath of the fall of the Soviet regime, the new Russian government ignored its interests in Northeast Asia. Today, Russia realizes the strategic importance of this region, especially its economic potential. It seems to be focusing much strategic effort on maintaining a powerful voice in the region.

Within Northeast Asia, the Russians view China as their peer competitor militarily. China, Japan, and South Korea all threaten

Russia economically. There are regional land disputes with Japan over the Kurile Islands, while Russia remains concerned about the balance of power in the region, especially the uncertain influence of the United States and China following a reunification of the two Koreas. Russia's immediate strategy in Northeast Asia includes four characteristics: greater integration into the world economy, aggressive diplomacy emphasizing multilateral approaches to problem solving, recognizing the distinct interest and orientation of Russia's regions that face the Pacific, and an integrated and dynamic pursuit of economic and strategic objectives.[31]

Therefore, within this region there are economic rivalries among China, South Korea, Japan, and Russia. There is political and military rivalry between North Korea and South Korea, while the former is a rogue state with ambitions empowered by a large military force and nuclear weapons. There are territorial land disputes involving China, Russia, and Japan. And there are internal economic challenges for all five states. All of the above have repercussions directly or indirectly on the United States and its strategic policies. Compounding an already complex situation is the growing demand within South Korea and Japan for the removal of U.S. forces. Given this convergence of competing economies, large military capabilities, competing regional objectives, and the uncertainty of a well armed rogue state, the future of the region is far from certain, and of great strategic importance to the United States. Continued U.S. military presence is an essential element of overall U.S. strategy in this troubled region.

U.S. Military Presence in the Region.

Approximately 90,000 U.S. military personnel serve in Northeast Asia, assigned to bases in South Korea and Japan. U.S. Forces Korea (USFK) totals 37,000 personnel, with 47,000 assigned to U.S. Forces Japan (USFJ).[32] This may appear a formidable military presence, but the singular mission focus of most of these forces, along with a paucity of actual combat forces, results in limited available combat power. This limited combat power creates strategic risk for the United States in the region.

The U.S. military presence in South Korea has been the stabilizing force in the region for the last 50 years. U.S. Forces Korea is a subunified command of Pacific Command.[33] Its mission remains the same since the armistice ending the war: deter aggression against South Korea, and, should deterrence fail, defeat the aggressor. It is a "ready to fight tonight" organization. Forces assigned to U.S. Forces Korea, combined with South Korea's forces, remain sufficient for deterrence, and, if necessary, defeat of a North Korean attack. Subsequent offensive operations, however, require follow-on forces from the United States.

The air component of USFK comprises a numbered Air Force (Seventh Air Force) with two fighter wings. These two wings combined have three fighter squadrons with F-16s and one squadron of A-10 aircraft.[34] There are no naval or Marine forces permanently assigned in South Korea, although each has a small headquarters element; U.S. Naval Forces Korea (USNFK) and U.S. Marine Forces Korea (MARFOR-K). The Third Marine Expeditionary Force (III MEF) in Okinawa and the Seventh Fleet, home-ported at Sasebo, Japan, become the designated marine and naval forces of U.S. Forces Korea upon commencement of hostilities. Eighth Army is the major U.S. ground combat force in Korea, and serves as the Army Service Component Command. It has a large theater army headquarters and several major subordinate commands with combat forces.

Eighth Army's air cavalry brigade contains two AH-64 attack helicopter battalions. Its general support aviation brigade has one lift battalion (UH-60) and one medium lift battalion (CH-47). It also has a Patriot Missile Battalion deployed in Korea defending critical facilities from air/missile attack. Although not considered combat forces, critical combat multipliers in Korea include the theater intelligence brigade and signal brigade deployed in support of U.S. Forces Korea. These two brigades fulfill the unique role of theater intelligence and theater C4I and provide a critical capability.

The largest ground combat force is an infantry division (Second Infantry Division). This division has an organization unique in the U.S. Army that provides capabilities in certain areas, although shortfalls in others. The division has only two ground maneuver brigades, (one armor and one infantry), vice the standard three.[35] The Aviation brigade has a lift battalion (UH-60s) and an air cavalry

squadron (OH-58D-KW), but limited attack capability with only an AH-64 battalion. The division's artillery Brigade (DIVARTY) possesses the majority of the firepower. The DIVARTY contains two 155mm self-propelled howitzer battalions and the unique addition of two multiple launch rocket system (MLRS) battalions.[36] This is a specific design to support the theater counterfire fight against North Korean artillery.

Unique to Korea is the command arrangement under which these forces operate. During peacetime U.S. Forces Korea is under operational control of Pacific Command. However, upon declaration of hostilities on the Korean peninsula, or as directed, these forces fall under the operational control of Combined Forces Command. Combined Forces Command is a combined defense organization of South Korean and U.S. forces, with the responsibility for prosecuting a war on the peninsula, should one occur. All training and planning of U.S. forces in Korea focuses on supporting this mission. Additionally, since assigned to Combined Forces Command, the U.S. forces in Korea must meet requirements concerning force availability, and are not generally available for deployment outside of South Korea. This restriction creates further limits on U.S. regional agility.

U.S. Forces Japan, like U.S. Forces Korea, is a subunified command of Pacific Command. This command numbers approximately 47,000 personnel with a Theater Army (U.S. Army Japan) as the army's component, a numbered air force (Fifth Air Force), a Marine Expeditionary Force (III MEF), and the Seventh Fleet as naval component. Upon a closer look, what is within these organizations does not represent a robust combat force.

Fifth Air Force, based at Yakota, Japan, is the air component. It consists of two fighter wings and an airlift wing. There are presently two squadrons of F-15s in the fighter wings, primarily for air-to-air combat. The remaining two fighter squadrons are F-16C/J "Wild Weasel" aircraft, specially configured for the suppression of enemy air defense mission.[37] These forces train both for the Japanese defense missions and other missions in the Pacific region. They are more readily available than forces in Korea to support regional contingencies. However, they are critical for the defense of Korea, should hostilities occur.

A final key element of the Air Force in Japan is the 353d Special Operations Group. This group provides air support to special operations forces and flies the MC-130 Combat Talons and MC-130P Combat Shadow aircraft. Of note, this force provides the fixed wing insertion capability for the special operations elements of the Korean Army. This capability represents a critical role, should hostilities commence in Korea, because the South Koreans posses no such capability.

The U.S. Army headquarters in Japan is a skeleton organization designed to maintain a logistics/support infrastructure for missions supporting operations in Japan or Korea. It centers around a theater support command that provides a robust theater level logistics infrastructure. The only deployed army combat force in Japan is a Special Forces battalion from First Special Forces Group.

The Marine Expeditionary Force in Japan also consists mostly of headquarters and staff elements. The Marine combat elements, located on Okinawa, include a Marine Division headquarters, a Marine Expeditionary Unit-Special Operations Capable (MEU-SOC), and a Marine Air Wing. However, there are few actual combat units within these units. The Marine division has only a regimental headquarters element permanently deployed on Okinawa. Its three subordinate battalions are part of unit deployment program (UDP) and rotate to Okinawa for 6-month training rotations.[38] The supporting artillery forces on Okinawa are also unit deployment program battalions, with only one or two batteries deployed in Okinawa at any given time. This unit-based rotation to a forward presence mission is unique within the Marine Corps. The Marine expeditionary unit consists of a reinforced infantry battalion with fires, aviation, and support element. Although based in Japan, this element embarks with its amphibious ready group and can be anywhere in the PACOM area doing a variety of missions at any time. It may or may not be available to support a combat requirement in Northeast Asia. Finally, the Marines have a Marine Air Wing permanently deployed to Okinawa in support of the Marine Expeditionary Force. This wing includes three FA-18 C/D squadrons, with helicopter support.

The most powerful combat force in Japan is the Seventh Fleet. Although the Seventh Fleet is home-ported in Japan, it is actually a

subordinate of the Pacific Fleet. Seventh Fleet can comprise a number of ships, but primarily consists of the *Kitty Hawk* Carrier Battle Group. The missions of Seventh Fleet are unique, as it has a forward presence mission in the Western Pacific region that frequently takes it outside the Northeast Asia area. In addition to a role in defense of Japan and Taiwan, the Seventh Fleet also serves as the U.S. Navy element in defense of Korea. Commander Seventh Fleet serves as the Commander Combined Naval Forces Korea upon activation. Even with its mission for the defense of Japan and Korea, the *Kitty Hawk* battle group often deploys outside the region, including stints in the Indian Ocean in support of the war against terrorism. As this chapter is being written, the *Kitty Hawk* has deployed to the Central Command area of operations for operations against Iraq. These situations further restrict U.S. agility in Northeast Asia.

In sum, on any given day in Japan, the Marines may have only one to two infantry battalion equivalents available to provide immediate support to a regional contingency. If the Marine Expeditionary Unit is committed in Southeast Asia or somewhere such as Timor, there is only one Marine Infantry battalion available in theater. The only other ground force in Japan is the Special Forces Battalion which is a highly specialized unit with limited capabilities. The Carrier Battle Group is tremendous capability, but lacks any type land power other than what Marine forces in Okinawa may be available. The battle group's area of operations is the entire Pacific Command area, and it to can easily be 5-7 days away. Even if at port in Japan, if "steam is not up," it may take 2-5 days to deploy the group.

In summary, given the sole defense focus of forces in Korea, if an immediate crisis developed in Northeast Asia outside Korea and the National Command Authority required a response involving ground presence within 48 hours, the only forces that the U.S. military leadership could guarantee would be available, trained, and ready in theater is a little more than one infantry battalion. One infantry battalion out of a regional presence of over 90,000 does not provide U.S. decisionmakers strategic agility in an area of such vital interest.

A Review of Options.

The 2002 National Security Strategy of the United States lists the following objectives, each of which is directly applicable to America's strategic objectives in Northeast Asia.

- Champion aspirations for human dignity.
- Strengthen alliances to defeat global terrorism and work to prevent attacks against us and our friends.
- Work with others to defuse regional conflicts.
- Prevent our enemies from threatening us, our allies, and our friends with weapons of mass destruction.
- Ignite a new era of global economic growth through free markets and free trade.
- Expand the circle of development by opening societies and building the infrastructure of development.
- Transform America's National Security Institutions to meet the challenges and opportunities of the 21st century.

The National Security Strategy further states,

> The unparalleled strength of the United States armed forces and their forward presence has maintained the peace in some of the world's most strategically vital regions . . . The presence of American forces overseas is one of the most profound symbols of the US commitments to allies and friends. Through our willingness to use force in our own defense and in defense of others, the United States demonstrates its resolve to maintain a balance of power that favors freedom. To contend with uncertainty and to meet the many security challenges we face, the United States will require bases and stations within and beyond Western Europe and Northeast Asia, as well as temporary access arrangements for the long-distance deployment of US Forces.[39]

These requirements mandate a capable military presence in Northeast Asia. Unfortunately, the current presence focuses on past, not future requirements. The volatility of the region justifies the need for greater strategic agility. However, the internal pressures over U.S. force presence both in Japan and Korea make any increase in either of these countries unlikely. Both Korea and Japan have considerable

trouble with the impact of current force levels. These negative impacts include space, training area requirements, the environment, and the dollar amount of burden-sharing costs borne by the host nation. Notable incidents such as the recent rape of a Japanese woman by a U.S. Marine and the deaths of two Korean school-girls run over by an armored vehicle have further exasperated an already difficult situation. Keeping the current level of forces is a daily battle, not only with South Korea and Japan, but also with forces within the Department of Defense and Congress; the idea of adding forces is a nonstarter. Establishing a U.S. presence in China or Russia, at least in the near future, is also not an option. Japan based U.S. forces already have a mission covering the entire PACOM area.

However, there are opportunities to develop greater strategic agility within the structure of U.S. Forces Korea. But there are calls coming not only from North Korea and an ever growing percentage of the South Koreans, but also from the United States Congress and the U.S. Department of Defense for an American withdrawal. Many argue that the United States should withdraw its forces from Korea and, if necessary, move them to Japan. Those who advocate such a policy hold a number of assumptions, unfortunately mostly false. Some believe South Korea is not at risk from the North and therefore maintaining a force presence in that country is no longer a vital interest of the United States. North Korean capabilities and intent counters this argument. South Korea acknowledges that the U.S. presence and capability is the principle deterrent to North Korea. Even with the eroding conventional capabilities of North Korea, the long range missile threat coupled with the threat of weapons of mass destruction assure that, even if South Korea did eventually defeat the North, the expected devastation and casualties from artillery and missile attacks against South Korean infrastructure and population centers are unacceptable.

Others argue that although North Korea still presents a legitimate threat to the security and perhaps survival of South Korea, the U.S presence in Japan is enough to handle any Korean contingency and provides sufficient regional presence. The above analysis indicates that the available combat power in Japan under the best of circumstances is the equivalent of two infantry battalions, three to four fighter squadrons, and the two fighter squadrons equivalents of

the Kitty Hawk Battle Group (if not deployed outside the area). The problem becomes a time/space challenge. If U.S. forces withdraw from Korea, they will possess only limited access for a return to South Korea. The range limitations associated with operations from Japanese bases impacts the sortie generation capability, delaying response times. Operations from Japan would require Japanese approval. A lesson from today's buildup in the Persian Gulf is that there is never a guarantee of political approval of allies. However, negative impact on the command and control integration with South Korean defense forces is perhaps the greatest disadvantage if U.S. forces moved to Japan.

Perhaps the most important justification for remaining in Korea is the fundamental nature of Combined Forces Command, the alliance's warfighting command. This force leverages the combined capabilities brought by the United States and South Korea. Its effectiveness rests on the synergy gained from the relationship, and the resultant asymmetric advantages created as compared with North Korea. For example, the South Koreans provide the majority of the defensive forces in manpower, over 600,000 daily, in defense of South Korea. But South Korea lacks many of the modern precision engagement weapons and other combat multipliers. The United States brings the intelligence, command and control, precision attack, theater missile defense, SOF infiltration capabilities, and much more. This complementary effect is what creates the combat power capable of defeating a North Korean attack, while protecting Seoul.

There is also a budget issue. The Korean Defense budget is $14 Billion for 2003.[40] However, there is little available to invest in developing organic systems to replace the systems the US brings to the fight. This year Korean defense development priorities are a MLRS type system and a destroyer project for the Navy. The costs of these weapons systems prevented Korea from pursuing a Patriot type Theater Ballistic Missile capability as well as other needed defense improvements. The U.S. military commitment to South Korea provides large economic savings for the Korean Government, allowing it to invest these savings in other critical domestic and foreign programs. The cost of the U.S. presence in Korea to the U.S. budget is $1.3 Billion, which does not include the investment and procurement costs of the systems themselves, such as attack

helicopters or the extensive space system necessary to support Korea's defense.[41] If the United States were to withdraw its military from South Korea, it would take South Korea a number of years to attain such capabilities, thus providing a window of opportunity to North Korea.

Some still argue American force projection capabilities from Alaska, Hawaii, and the west coast of United States could easily substitute for forces in the region. The deployment time is again the critical factor. Under best cases, one could expect to deploy a brigade or perhaps air elements to Korea within 96 hours. Over the years the unambiguous warning time of impending North Korean attack has declined from 10 days to as little as 72 hours.[42] Forces off the peninsula simply cannot get there in time. Additionally with the world-wide demands on U.S. forces, especially as the United States is engaged in war with Iraq, those forces apportioned to support Pacific Command will out of necessity deploy elsewhere and not be available.

Accepting that Korea is at risk should America withdraw forces, even to Japan, some still argue that the ingratitude and mass anti-American sentiment justifies leaving Korea to deal with its own problems. Admittedly, there are tensions resulting from U.S presence in South Korea. Incidents such as violent crime by American service members and tragic accidents certainly enflame these tensions. However, on the whole, both government officials and the citizens of South Korea generally accept the necessity of a U.S. presence as a vital interest of their country.[43]

Finally, some argue that a U.S. withdrawal from South Korea will lead to greater regional stability, since the regional states, especially China and Japan, will likely take a more active regional role. Although certainly this might occur, the result could well be counter to America's strategic objectives in Northeast Asia with an arms race, even a nuclear arms race in the region. Such a state of affairs would threaten U.S. vital interests and would definitely limit U.S. influence. The fact is that the U.S. military presence in Korea has been a stabilizing force in the region that prevents such an occurrence.

While the above makes a case for retaining U.S. forces in South Korea, the present unsatisfactory situation demands change. There

are negative aspects and false assumptions about the role and significance of current U.S. forces in Korea. The first consideration addresses the question of deterrence. Just how much U.S. military presence is required to deter North Korea? The two components of deterrence are capability and intent. For North Korea, the calculation boils down to: Does the United States have the capability to defend South Korea and the intent to become involved in a major theater war? The presence of U.S. forces in South Korea is a strong indicator of such intent. These forces inextricably link an attack on Korea as a direct attack against the United States, justifying U.S. retaliation with all its might on North Korea. The United States must keep soldiers on the ground to maintain this strategic deterrence against North Korea. However, does the same deterrence exist with 25,000 U.S. forces in South Korea? What about 10,000? Strategic deterrence is the result not only of deployed forces, but also a combination of all the elements of U.S. power and a coherent strategy toward North Korea. U.S. boots on the ground in forward defense represents a considerable political statement and a legitimate tripwire that commits the United States. As long as U.S. forces of some sort remain associated with forward defense, this tripwire exists, and thus the intent portion of deterrence remains unambiguous. The numbers are not so important.

The second component of deterrence is capability, and, on this point, numbers and the capabilities of those forces matter. U.S. forces represent a critical element of South Korea's capability to defeat a North Korean attack. The United States brings asymmetric advantage and technological overmatch to South Korea's defense capabilities. These capabilities force the North Koreans to confront the probability of their defeat, if they choose to go to war. Without U.S. capabilities a North Korean attack is unlikely to succeed but the extent of the threat by itself could gain considerable political concessions from South Korea. U.S. forces in South Korea ensure deterrence.

This leads to the faulty assumption that U.S. ground combat presence in South Korea is the principle force on which deterrence rests. This is not the case. South Korea provides approximately 50 divisions for defense of the nation. The United States provides one division. America's most significant contributions to the defense of

South Korea lie the areas of command and control, intelligence, and precision attack (both airpower and long range fires), and theater missile defense. These asymmetric capabilities significantly enhance South Korea's military capabilities.

Despite these advantages, U.S. forces in South Korea cause great stress on South Koreans. American bases, in many cases operationally malpositioned, take valuable land needed to support a growing population.[44] The cost to support U.S. forces in Korea is quite large. Moreover, the decay of U.S. facilities in Korea results in a significant commitment of service budgets to improve quality of life, including building new barracks and housing facilities. This expansion of U.S presence further inflames the South Koreans, who see these efforts as evidence of long term increased American presence and not a path toward reducing pressures. The "center of gravity" of U.S. forces remains in the capital, on what is perhaps the most valuable real estate in Seoul, similar to the Koreans having a large military post in Central Park in New York. In addition, the current presence represents a significant challenge to the services, considering other worldwide commitments. Since most Korean assignments are a 1-year remote tour, a large percentage of the force is either preparing for a Korean tour, serving in Korea, or recovering from a recently completed tour.

There is serious tension between Korea and the United States in the defense relationship. America brings the asymmetric capabilities and technological overmatch, but also the extensive requirements to train and exercise those forces to U.S. standards and well as meet the associated U.S. quality of life standards for the troops. This, along with a U.S policy that South Koreans perceive as counter to their "sunshine policy" further exasperates the pressures on them. These pressures contribute to the perception that the United States is domineering and parental in its defense relationship with South Korea. For example Combined Forces Command, the defense organization which controls all U.S. and Korean forces in defense of South Korea, comprises approximately 50 divisions. There is only one U.S. division, yet the United States insists on an American General in command. While there are valid reasons, this demand represents a vivid example of the friction points that strain the relationships. Clearly from the regional assessment and review

of military presence in the region there is little argument that U.S. forces need to be in South Korea. However, if the force presence is itself a source of some of the strategic friction between the United States and South Korea, is there a way to maximize capabilities, while minimizing the associated challenges?

A Recommended Strategy.

> Improvement will require not only technological solutions, but also cultural change; a willingness to challenge standard practices, and question current organizational patterns and command processes.
>
> General Richard B. Myers, CJCS[45]

Given that U.S. forces in Korea are necessary to defend South Korea and that Japan is not likely to accept additional forces, modifications to the U.S. force structure in Korea must meet two conditions. First, the U.S. military force presence in South Korea must ensure the defense of South Korea. Second, the forces must be capable of meeting U.S. regional strategic objectives. Based on the assumption that any future plan must ensure no overall strategic risk to the defense of Korea and that there will be no additional forces available and "less is better," the United States should consider the possibilities of reorganizing current forces, focusing on maximizing the essential capabilities provided to defense of Korea, while simultaneously developing a regional response capability with available forces.

The evolution of the South Korean military provides insight into possible areas where U.S force presence can change. Following the Korean War, the defense of Korea was solely dependent on U.S forces. Over time the South Koreans developed a large and capable military force. Today many analysts believe South Korean ground forces could successfully defend South Korea against North Korean ground attack. However, it is what the U.S. Forces bring to the fight that ensures a rapid victory, as well as the protection of key infrastructure. The value of the U.S. contribution is not the ground maneuver forces, but rather the technological combat multipliers

and resultant asymmetric advantages. The U.S. multiple launch rocket systems, long-range canon systems, and precision all-weather air force attack capabilities are essential to defeat a North Korean attack. U.S. intelligence systems bring unmatched situational awareness to the South Koreans. Early warning of a North Korean attack is not possible without these capabilities. Coordinating the various South Korean and U.S. forces and directing this million man combined force requires the U.S. command and control capabilities and advanced technologies that American forces integrate into the command structure. The Patriot systems are also vital for key target defense.

Given these capabilities essential for defense of Korea, it leaves a significant amount of the U.S military presence Korea that is not so essential for deterrence or a successful defense. Specifically other than counterfire and associated counterfire support units of the Second Infantry Division, the rest of the division is not essential. However, since there is limited U.S. capability to respond to contingencies in the Northeast Asia region, it seems more prudent to explore options to utilize better these noncritical forces to satisfy U.S. regional requirements. There are many advantages to restructuring the current presence in Korea to an organization that maximizes the capabilities essential to defeat a North Korean attack, while simultaneously creating a regional joint task force. This task force would focus primarily on regional contingencies, with a reinforcement mission in Korea.

A possible course of action to meet the two requirements of defense and regional agility is to reduce the 2nd Infantry Division from a full division to a smaller, functionally focused force. It would be a "fires based" combat command construct with associated intelligence, security, aviation support, and a large logistics force. This would be a fires-based element designed largely to provide long-range operational fires to defeat a North Korean attack, in other words a counterfire task force. This would maintain the U.S. boots on the ground for deterrence, and the essential U.S. contributions to forward defense of South Korea. The headquarters element of the counterfire task force (recommended one star general officer commanding) would include a small operations and planning staff,

a small logistics coordination staff, and much of the near real time targeting capability of the current division's intelligence staff. The goal would be to gain at least a 60 percent or larger reduction in the current headquarters.

The actual fires task force would be built from the two Multiple Launch Rocket System (MLRS) battalions, two self-propelled artillery battalions, a small aviation element with C2, lift, and scout capabilities, intelligence, signal, air defense capabilities, and, most importantly, a tailored logistics unit approximating the size of a main support battalion. A South Korean infantry battalion could serve as a security force for this task force.

Such a functional based fires organization is not unprecedented in the U.S. Army. The former 56th Field Artillery Command (Pershing) is a historic model for such a force.[46] That unit formed up in the mid 1980s as a command responsible for providing general support nuclear fires in support of the Supreme Allied Commander Europe. Its construct applied in Korea would restructure the forces in 2nd Infantry Division to a command optimized to perform the division's most critical mission; providing responsive long-range fires. A possible organization is shown in Figure 1.

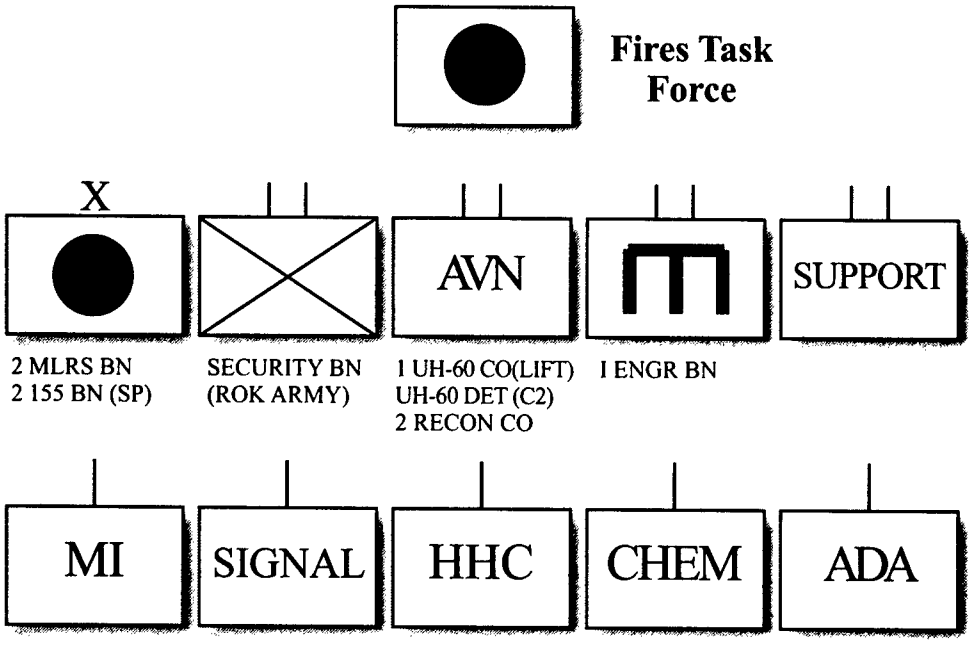


Figure 1. Proposed Fires Task Force.

The second element in the reorganization plan would be to create additional U.S. strategic agility in Northeast Asia by developing a standing, rapidly deployable joint task force from available elements in theater, with no reduction in the capability to defend South Korea. This task force would primarily focus externally on Northeast Asia, but would retain the capability to respond within South Korea in event of hostilities. Such a force would meet the emerging goals espoused in recent Department of Defense documents, which identify several operational themes needed to maintain U.S. military preeminence in the 21st century. One specific requirement for future forces is "to develop tailored combat forces that are joint and expeditionary in character, rapidly deployable and immediately employable from a forward posture to assure U.S. allies and partners, or dissuade, deter, or defeat an adversary when necessary."[47] Core capabilities for this force would include not only combat, but capabilities for show of force, force enhancements, military to military contact, peace operations, noncombatant evacuation operations, and humanitarian assistance. This force could be the Pacific Command's executive agent for theater engagement strategy in Northeast Asia. The first step of creation of this "Joint Task Force Northeast Asia" would be to reorganize the elements of 2nd Infantry Division no longer necessary to support the fires mission. Elements of these forces would form the nucleus of a provisional joint task force.

The first and foremost requirement for such a Joint Task Force would be to establish a permanent standing headquarters. This would not be a joint task force "core" or "plug," as currently planned by Joint Forces Command, but a fully functional standing, "warfighting" headquarters with permanently assigned personnel capable of operationally employing joint forces in a variety of roles anywhere in Northeast Asia. A large portion of this headquarters could initially form up from elements in the current infantry division headquarters. The present two-star commander could initially become the unit's commander, but the billet could easily, and should, rotate between services. Initially, with the preponderance of force coming from what was the 2nd Infantry Division, the division's staff would establish the initial headquarters, but over time these billets should evolve into a truly joint headquarters. This could occur in a relatively short time with the personnel available already

in Pacific Command, U.S. Forces Korea, and U.S. Forces Japan. The end goal would be no net increase in personnel in Korea, but, in fact, a reduction. The Joint Task Force should be a subordinate of Pacific Command, even though located in South Korea. This is necessary because of its regional focus outside of South Korea. U.S. Forces Korea requires administrative control (ADCON) to facilitate routine issues, with Pacific Command retaining operational command (OPCOM).

The units comprising the Joint Task Force would be built around functional elements. It should include an assigned ground maneuver element, maneuver support element, and a protection element. Initially the ground maneuver element would consist of the two light infantry battalions of the 2nd Infantry Division, but these would be placeholders for a Stryker brigade combat team, the ideal army element for this Joint Task Force. Habitual relationships should occur with air and Marine elements.

The air component of the joint task force could consist of one fighter squadron from Kunsan which would train with the joint task force. In the event of its employment, this fighter squadron would serve as the primary air element. This would be an on order OPCON type relationship. However, the JTF could function equally as well with any air asset assigned, including forces out of Hawaii or Alaska depending on the mission. Specialized aircraft in Japan such as F-15s and F-16 SEAD aircraft would also train with the JTF to establish relationships. The Marine Expeditionary Unit in Japan would remain a separate force not assigned to Joint Task Force Northeast Asia. However, the joint task force would be capable of adding the MEU as a MAGTF operating under its headquarters if the situation warranted. As such, sufficient Marine representation must form part of the staff. A proposed model for the initial joint task force is shown at Figure 2.

The location of this joint task force is extremely important. It must be near airbases and ports capable of power projection. Kunsan Air Base is one such location—and that location would remove the headquarters and troops from the heavily congested areas of Seoul and Pyongtek. It would also remove the joint task force from North Korean artillery range and prove its nonoffensive nature following

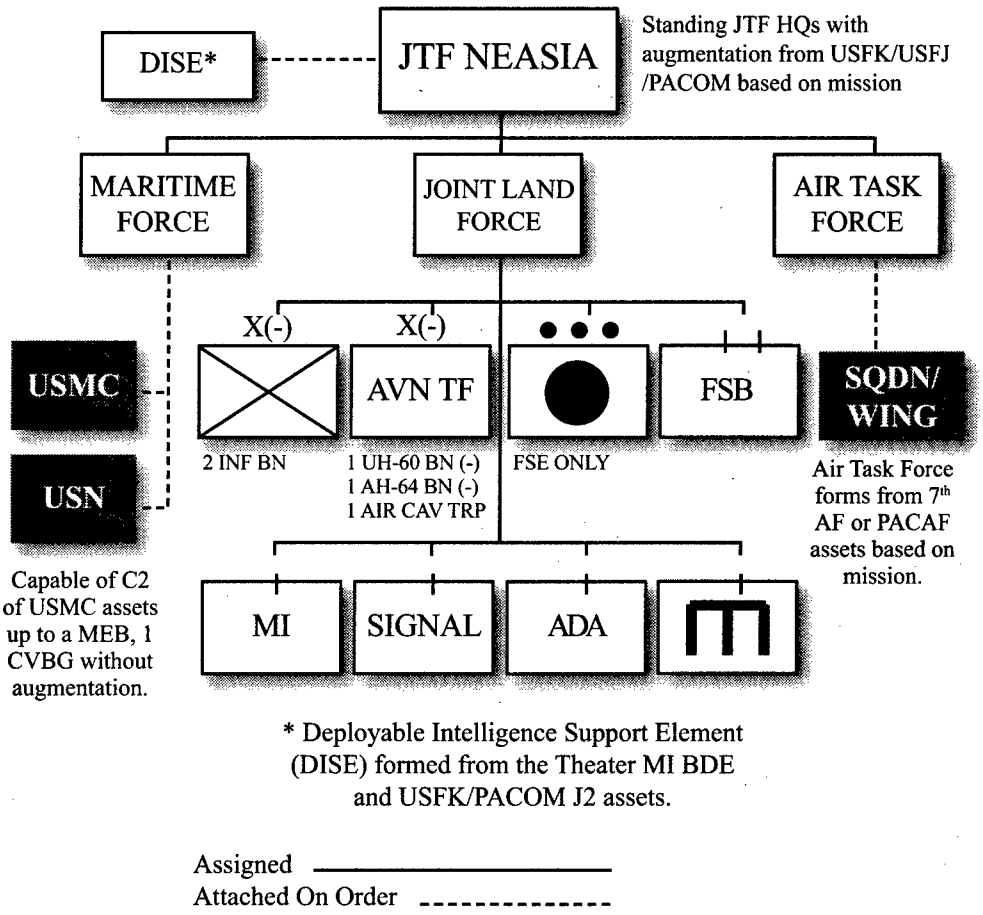


Figure 2. Proposed Joint Task Force.

reconciliation. A relocation of these forces would also ease the internal tensions. The units assigned could rotate in and out in unit sets. For example, an infantry battalion would do a 6-month rotation to the joint task force, similar to Marine unit deployment rotations in Japan. Since the vision is for such a force to spend much time off peninsula in theater engagement missions, the task force would be a family restricted tour, which would reduce the associated infrastructure costs. Adopting the proposed force structure potentially would provide an immediate reduction of forces in Korea of approximately 3,000 personnel within 2nd Infantry Division, as well as reduce the

footprint of U.S. forces north of Seoul by almost 50 percent.[48] This would represent a substantial political statement to both North Korea and South Korea.

The final element would address a sensitivity issue. As discussed, Combined Forces Command, a predominately South Korean force, still possesses a U.S four-star general as commander with a South Korean four-star deputy. It is time to look closely at the benefits of this command arrangement. The position of commander in chief and deputy commander in chief should rotate between the United States and South Korea. At the end of each 2-year term the positions would switch between a U.S. commander in chief and South Korean deputy to a South Korean commander in chief with a U.S. deputy. The issue of the UN Command complicates this, but it could still be done. This would do much to repair the perceptions of Korea being the junior partner in the alliance.

In summary, this plan would reduce combat forces assigned to U.S. Forces Korea to the critical capabilities for defense, create a standing, rapidly deployable joint task force with a regional mission, and provide opportunity for significant force reductions, and significantly improve relations with South Korea.

This proposed phase one reorganization of US forces in Korea provides these advantages over current force structure:

- Better satisfies regional objectives stated in the National Security Strategy and *Quadrennial Defense Review*.[49]
- Offers greater strategic agility for the U.S. in the region.
- Potentially could be packaged as a "reduction in threat" in negotiations with the North in support of reconciliation or disarmament.
- Allows more tailored training and packaging for the current regional forces in Japan that today respond to many nations within the PACOM area of responsibility.
- Sets the conditions for enduring U.S. military regional capability within Korea post-reconciliation or reunification.
- Supports the creation of a Partnership for Peace type organization in Northeast Asia to improve regional military to military engagement, potentially involving China, Russia

and perhaps even North Korea.

- Adds significant regional capability with no increase in force structure.
- Sets the groundwork for a combined regional peacekeeping/humanitarian force that could include Korean and/or Japanese elements, i.e., U.S. forces with strategic lift provided by Korea or Japan that would appeal to both Nation's desires for greater regional security roles.
- Would continue to give South Koreans more responsibility for defense of their nation, which matches their own desires of Chu'che (self-reliance).
- Finally, most significantly, all Northeast Asian states and other Asian nations have their military power built around land power (army forces). A regionally focused army ground force with staying power is greatly needed.[50]

Following a reconciliation or reunification of the two Koreas, the United States will undoubtedly need to make additional major changes to its regional defense structure. As part of reunification one can expect a rise in nationalism, and demands for an American withdrawal from Korea. Assuming confidence-building measures and conditions for reunification results in reduction of the North Korean threat, especially artillery and weapons of mass destruction, a fires-based combat force could be withdrawn from theater. The removal of U.S. Forces Korea may be part of reunification conditions. However, the Joint Task Force with a regional focus, and by then credibility established through theater security engagement actions, should not become part of such a withdrawal.

At that point, U.S. Forces Korea and U.S. Force Japan could restructure in a single command, perhaps a Northeast Asia Command. This would remain a subordinate unified command of Pacific Command, but would be a focus for employment of U.S. military forces in Northeast Asia. Joint Task Force Northeast Asia would remain a standing major subordinate command and could evolve to a robust joint task force with additional roles and missions.

Conclusion.

The conventional threat from North Korea has deteriorated to the point where the U.S. ground maneuver forces are no longer critical for either deterrence or actively defending South Korea. Meanwhile, the United States has too few options in theater to react elsewhere in Northeast Asia. At the same time, Northeast Asia is rapidly becoming a region that impacts many vital American interests. In order to maintain strategic relevance and capabilities in Northeast Asia, it is essential that the United States modify the force structure and mission focus of forces assigned to the defense of Korea. By so doing, it would provide a capability for more regional military-to-military engagement, and greater regional response. This option fully supports the goals of the Quadrennial Defense Review and National Security Strategy and may in fact help in reducing tensions on the Korean Peninsula, including the growing demand for removal of U.S. forces. Most importantly, following reunification there will undoubtedly be calls for the United States to leave Korea. Adopting the proposed model would provide a wider range of strategic options for the United States. For example, it could withdraw the proposed counterfire task force following reunification and bill it as "the last US combat division leaving Korea," a significant political statement. Meanwhile the Joint Task Force would remain and provide a significant, politically acceptable, U.S. regional capability in this vital area. Cooperation with Korea, Japan, and perhaps China and Russia, could bring enough combined capabilities to this task force, and satisfy enough of their own regional security aspirations that they would welcome, or at least accept, the presence of such a force following Korean reconciliation or reunification.

There are risks, but increasing sales and fielding of U.S. systems such as MLRS and missile defense systems to South Korea can mitigate many of these. Since the standing joint task force remains based on the peninsula with a reinforcing mission to U.S. Forces Korea there would be little change in the combat capability available to defend South Korea.

Setting the conditions for U.S. strategic presence in Northeast Asia must occur today. The proposed model represents a much

needed force construct adjustment, with no increased forces, and positions the United States to be more strategically responsive and relevant in Northeast Asia tomorrow.

ENDNOTES - CHAPTER 5

1. Donald H. Rumsfeld, as quoted in "Joint Operational Warfighting (JOW): Thoughts on the Operational Art of Future Joint Warfighting (DRAFT)," Washington DC: The Joint Staff, January 2003, p. 23.

2. Thomas A. Schwartz, "Statement of General Thomas A. Schwartz, Commander in Chief United Nations Command/Combined Forces Command & United States Forces Korea," Sworn testimony before the Senate Armed Services Committee, March 27, 2001, p. 1.

3. Some sources include Taiwan as a Northeast Asia nation. For purposes of this chapter, I will not specifically address Taiwan, although it should be noted that the tensions over Taiwan's desire for separate nation status and Chinese goals to regain sovereignty over Taiwan remains a significant flashpoint in Asia and Northeast Asia.

4. Congress, House, Subcommittee on International Relations "Northeast Asia After 9/11; Regional Trends and U.S. Interests," 100th Congress, 1st Session, November 15, 2001.

5. Don Oberdorfer, *The Two Koreas,* Massachusetts, 1997, pp. 3-6, 411.

6. Central Intelligence Agency, *The World Factbook,* Washington DC, 2002, available at *www.cia.gov/cia/publications/factbook/geos/ks.htmlp,* internet, accessed November 10, 2002.

7. South Korea Economic Overview, "Country Watch," Available from *222.countrywatch.com/cw,* Internet, accessed January 13, 2003. Despite the South Korean economic crisis in 1997-1998 that resulted in a $58 Billion IMF "bailout," the nation recovered rapidly, and by 2001, South Korea had completely repaid its IMF loans, ahead of schedule.

8. Examples of South Korean economic growth include ship building and electronics. South Korea is now the world's leading shipbuilder. This is remarkable, considering 40 years ago South Korea had no shipbuilding industry. South Korea is also challenging Japanese market dominance in electronics. Samsung and LG Electronics are South Korean brand names recognized around the world for quality.

9. Chae Jung Lim, "Roh Seeks Regional Economic Block," *Korean Herald*, January 25, 2003. The new Incheon airport, one of the world's largest, though only partially completed, and associated planned business industrial complex is one example of investment Korea is making to position itself as economic facilitator and crossroads in the region.

10. U.S. Forces Korea, "Korea-Region in Transition," U.S. Forces Korea Command Briefing, October 2002.

11. CNN, "South Korean Victor Seeks Change in US Alliance," Available from *www.cnn.com/2002/world/asiapcf/east/12/20skorea.president*, Internet, accessed December 20, 2002.

12. Steven Weisman "South Korea, Once a Solid Ally, Now Poses Problems For The US," *New York Times*, January 2, 2003.

13. Mark Litke on ABC Evening News, January 9, 2003.

14. *Ibid.*

15. Japanese International Affairs Institute, "Kim Jong Il and His Strategic Goals," October 1995.

16. Richard Sisk, "Bush Sobered By Their Might," *New York Daily News*, January 10, 2003.

17. Schwartz, 2001 Testimony, p. 5.

18. Phillip C. Sounders, "Military Options for Dealing with North Korea's Nuclear Program," Monterey Institute of International Studies, January 10, 2003, p. 3. Available from *http://cns.miis.edu/research/korea/dprkmil.htm*, Internet, accessed February 12, 2003. Most threatening are the 170mm Koksan Guns and 240mm Multiple Rocket Launchers that can range Seoul from current firing positions.

19. *CNN.com*, "North Korea Has Ballistic Missile Capable of Hitting United States," February 12, 2003. Available from *www.cnn.com/2003/world/asiapcf/east/02/12/03us.nkorea/index/html*, Internet, accessed February 12, 2003.

20. Japanese International Affairs Institute, "Kim Jong Il and His Strategic Goals," Japan: International Affairs Institute, October 12, 1995.

21. John Mearsheimer, *The Tragedy of Great Power Politics*, New York, 2001, pp. 373-377.

22. Philip P Pan, "China Treads Carefully Around North Korea," *Washington Post*, January 10, 2003.

23. James Przystup, "Anticipating Strategic Surprise on the Korean Peninsula," *Strategic Forum*. The North Korean military is comprised of an active duty force of over one million, with another six to seven million in a ready reserve type force, out of a population of only 23 million.

24. Carolyn W. Pumphrey, ed., *The Rise of China in Asia*, Carlisle Barracks PA, 2002; and Andres Scobell and Larry M. Wortzel, eds., *China's Growing Military Power: Perspectives on Security, Ballistic Missiles, and Conventional Capabilities*, Carlisle Barracks PA, 2002, pp. 1-9.

25. Congress, "Northeast Asia After 9/11," p. 36.

26. Ministry of Foreign Affairs, Japan, "Challenge 2001-Japan's Foreign Policy Toward the 21st Century," available from *www.mofa.go.jp/policy/other/challenges21.html*, Internet, accessed January 19, 2003.

27. Country Watch "Japan Economic Outlook," available from *www.countrywatch.com/cw_topic.asp*, Internet, accessed January 13, 2003.

28. Ministry of Foreign Affairs, Japan, p. 8.

29. Janes "China and Northeast Asia Risk Pointers-Japan," available from *www2.janes.com/docs/regionalrisk/asia_pacific/china_northeast-asia/japan.shtml*, Internet, accessed January 13, 2003.

30. CIA World Factbook, 2002.

31. Anna V. Shkuropat, *New Dynamics in Northeast Asia*, Washington DC, 2002, p. 3.

32. Global Security.org, "U.S. Forces Japan," *www.globalsecurity.org/military/agency/dod/usfj.htm*, Internet, accessed November 9, 2002.

33. Department of Defense, "*Joint Publication 0-2, Unified Action Armed Forces*," Washington DC, The Joint Staff, July 10, 2001. A Subordinated Unified Command is defined as

> A command established by commanders of unified commands, when so authorized through the Chairman of the Joint Chiefs of Staff, to conduct operations on a continuing basis in accordance with the criteria set forth for unified commands. A subordinate unified command may be established on an area or functional basis. Commanders of subordinate unified commands have functions and responsibilities similar to those of the commanders of unified commands and exercise operational control of assigned

commands and forces within the assigned operational area. Also called a subunified command.

34. U.S. Air Force "Kunsan Air Base Fact Sheet" 8th Fighter Wing Office of Public Affairs, available from *www2.hickam.af.mil/facts/KunsanAirBase.htm*, Internet, accessed January 13, 2003. Seventh Air Force is under operational control of USFK, but is assigned to Pacific Air Forces, the Pacific Command Air Component.

35. The armor brigade in 2d Infantry Division has two tank battalions and one mechanized battalion. The Infantry brigade in 2d Infantry Division is unique to Korea. It is comprised of two air assault infantry battalions and one mechanized battalion. The total is 2 tank battalions, two mechanized battalions, and two air assault infantry battalions.

36. Global Security.org "2d Infantry Division Artillery (DIVARTY," available from *www.globalsecurity.org/military/agency/army/2id-divarty.htm*, Internet, accessed January 6, 2003. Although formed as two separate MLRS battalions, it is the equivalent of 1 battalion plus one battery.

37. U.S. Air Force, "Fact Sheet Misawa Air Base," 35th Fighter Wing Public Affairs Office, available from *www2.hickam.af.mil/facts/misawa.htm*, Internet, accessed November 13, 2002.

38. Third Marine Division "Third Marine Division Homepage," available from *www.3div.usmc.mil*, Internet, accessed January 6, 2003.

39. The White House, "A National Security Strategy For A Global Age," Washington DC, The White House, September 2002, p. 29.

40. "ROK Fears North Korean Ability to Wage Asymmetric Warfare," *National Defence Magazine*, available at *www.nationaldefensemagazine.org*, Internet, accessed February 5, 2003.

41. U.S. Forces Korea, *U.S. Forces Korea Resource Management Fact Book*, USFK, 2003, p. 44. The $1.319 (Millions) figure includes the O&M, Family Housing, and MILCON costs for Eighth Army, 7th Air Force, Naval Forces Korea, Marine Forces Korea, SOCKOR, and the Installation Management Agency Korea.

42. Richard Halloran, "New Warplan Calls for Invasion of North Korea," *Global Beat*, New York, November 1998, available from *www.nyu.edu/global/asia/Halloran111498.html*, Internet, accessed February 12, 2003.

43. This observation is based on my experience during four years service in Korea 1998-2002. Those that oppose American presence are generally the younger generation without personal memory of the Korean War and the immediate

aftermath. Additionally U.S. opposition usually rises during election campaigns especially the Seoul Mayoral campaign and Korean Presidential campaign. Following the elections the rhetoric usually subsides.

44. The malpositioning is a result of continued occupation of military bases or camps that United States has retained since the end of Korean War. With changes to missions, these bases are not always in the best operational locations. For example, the Apache battalion of 2nd Infantry Division is located well within range of North Korean artillery, and separated from the division by several hours ground travel. USFK is undertaking a installation downsizing initiative known as Land Partnership Plan, an element of the plan is to better align unit locations with operational missions.

45. General Richard B. Myers, quoted in "Joint Operational Warfighting (JOW): Thoughts on the Operational Art of Future Joint Warfighting (DRAFT)," Washington DC, The Joint Staff, January 2003, p. 13.

46. The 56th Field Artillery Command (Pershing) was formed from the 56th Field Artillery Brigade in 1986. This unit was equipped with the Pershing II missile, an intermediate range nuclear missile. The unit's mission was to provide general support nuclear fires in support of SACEUR. The unit organization consisted of three Pershing Missile battalions, an infantry battalion with the sole mission of security of the missile battalions, a signal battalion, support battalion, small aviation element, and headquarters company.

47. The Joint Staff, "An Evolving Joint Perspective: US Joint Warfare and Crisis Resolution in the 21st Century," Washington DC, The Joint Staff, January 2003, p. 5.

48. This is a extremely conservative estimate based on the manpower calculations involved in removing a brigade from the division and the associated support force reductions. Under this model the following forces are available for withdrawal from Korea: Armor Brigade headquarters (90), 2 armor battalions @ 450 each, a mechanized infantry battalion (450), one engineer battalion (500), engineer brigade headquarters (75), two intelligence companies (75 each), air defense company (50), forward support battalion (500), signal company (75), finance and personnel battalion reductions (100-150). With this reduction USFK would be able to accelerate the Land Partnership Plan and immediately give up several camps including the five located within the Western Corridor (Howze, Giant, Edwards, Stanton, and Greaves), and the smaller installations in Tonduchon and Uijongbu, both highly congested urban areas.

49. Department of Defense, "Quadrennial Defense Review Report," Washington DC: Department of Defense, September 2001.

50. Andrew Scobell, *The U.S. Army and the Asia-Pacific,* Carlisle, PA, 2001, pp. 2, 21-28.

CHAPTER 6

THE WAR IN AFGHANISTAN: A STRATEGIC ANALYSIS

Colonel G. K. Herring

The formulation of national strategy is critically important. In essence, the process of strategic decisionmaking defines how a nation will direct and coordinate the elements of national power to achieve its goals. In times of conflict, strategy determines the nation's approach to conflict and defines the ends, ways, and means used to prosecute war. Ultimately, it determines success or failure in war.[1]

Following the terrorist attacks of September 2001, the United States found itself at war with al Qaeda, Osama bin Laden's international terrorist organization. In response to the terrorist attacks, President George W. Bush's administration formulated a national strategy for the war in Afghanistan.[2] What, then, was the U.S. strategy for this war? And, more importantly, did it represent an effective national strategy that will enable the United States to achieve its goals?

What follows is a strategic analysis of the war in Afghanistan. This chapter's intent, first and foremost, is to articulate the strategic objectives of the war, the approaches taken to achieve those objectives, and the resources employed in each approach. In other words, its primary purpose is to identify the ends, ways, and means of American strategy. After describing what the United States has been trying to accomplish in Afghanistan and how it has pursued those objectives, this chapter will provide an assessment of U.S. strategy by focusing primarily on whether or not the United States has achieved its strategic objectives. It will conclude the analysis by discussing implications for the future.

NATIONAL STRATEGY FOR THE WAR IN AFGHANISTAN

Following the terrorist attacks on September 11, 2001, the Bush administration established a national policy to guide America's

response to the attacks. In essence, its policy was to find those responsible and bring them to justice.[3] In doing so, the United States would disable the terrorist organization in Afghanistan and prevent the terrorists from mounting further attacks against the United States. In his first televised speech following the attacks, President Bush expanded the policy to include not only the terrorist perpetrators, but those nations that harbor them, as well.[4] In essence, his policy made elimination of terrorist sanctuaries and support systems as important as elimination of the terrorists themselves.

The Bush administration elected to focus initial efforts on fighting the al Qaeda terrorist network in Afghanistan.[5] The al Qaeda network, an organization with global reach, included terrorist cells in nations around the world. However, its network thrived in Afghanistan, where it enjoyed the support of the Taliban. In addition, many key leaders of the al Qaeda network not only lived in Afghanistan, but had directed attacks against the United States from locations inside that country. Although other terrorist organizations represented a threat to the United States, the administration decided to pursue those organizations later, in a broader war on terrorism. For the president and his national security advisors, the first order of business was the al Qaeda network in Afghanistan. As a result, in the days and weeks immediately following the events of September 11, the administration focused on formulating a strategy for the war against al Qaeda and its Taliban supporters.[6]

The Ends.

The administration developed six strategic objectives for operations in Afghanistan. The primary objective was to disrupt, and if possible destroy, the al Qaeda network in that country. Osama bin Laden and many of his key leaders had relocated to Afghanistan from Sudan in 1996.[7] They established headquarters and training camps in the country and began orchestrating operations from there. Following the attacks on September 11, the administration designed military operations that would inflict real pain on the terrorists and destroy the al Qaeda network, at least in Afghanistan.[8]

The United States also sought to convince, and if necessary compel, the Taliban to cease support for terrorist organizations, al

Qaeda's in particular. In referring to the September 11 attacks, the president declared, "We will not only deal with those who dare attack America, we will deal with those who harbor them and feed them and house them."[9] Statements from administration officials made it clear that they saw little distinction between al Qaeda, who had planned and executed the terrorist attacks, and the Taliban, who supported the terrorists' activities.[10] Ultimately, the objective of the Bush administration was to deny al Qaeda the sanctuary and support it enjoyed in Afghanistan.

In addition, the Bush administration sought to demonstrate that the United States was not at war with the Afghan people or the Islamic religion. The administration sought to define the conflict carefully in terms of terrorism, and narrow the scope of the conflict to al Qaeda and its Taliban supporters. In doing so, it hoped to avoid implications that the United States had embarked on a crusade against Islam or was engaging in a fight against innocent Afghans.[11]

The administration also sought to demonstrate American resolve in this war on terrorism. Bush and his top national security advisors believed the Clinton administration's response to bin Laden and international terrorism had been, "so weak as to be provocative; a virtual invitation to hit the United States again."[12] The objective now was to convey, as forcefully as possible, the nation's commitment. In addition, many in the Bush administration felt that a perceived aversion to casualties had emboldened terrorists to attack the United States or U.S. interests around the world.[13] To overcome that perception, the administration intended to demonstrate total commitment to the fight, to include a willingness to accept the risk of casualties.

The strategy also included the objective of building international support for the war in Afghanistan. The Bush administration believed it would need broad international support for the war.[14] Support from Afghanistan's regional neighbors, in particular, would provide the United States with the basing, access, and over-flight rights necessary to prosecute a military campaign in Afghanistan. Support from other nations would provide an added degree of legitimacy and could lessen the burden of war on the United States. Accordingly, the administration sought to involve as many nations as possible.[15]

The final objective was to stabilize Afghanistan following the fighting. The intent was to avoid creating a vacuum in a notoriously turbulent, unstable nation.[16] When the fighting was over, the administration wanted to establish conditions that would foster security and stability. Moreover, it aimed at eliminating the conditions that had promoted terrorism and support for terrorism. In essence, the strategic intent was to prevent the reemergence of al Qaeda in Afghanistan and the use of that country as a sanctuary for terrorist organizations.

The Ways.

The United States adopted a variety of approaches to accomplish its strategic objectives. It sought, first and foremost, to disrupt or destroy the al Qaeda network in Afghanistan. To do so, it mounted an effort to kill or capture key terrorist leaders. In essence, the president wanted to, "take out bin Laden and his top lieutenants."[17] In addition, the United States sought to kill or capture al Qaeda fighters and destroy the terrorist infrastructure in Afghanistan, such as training camps, safe houses, and meeting places for al Qaeda operatives.[18] The United States also sought to freeze the financial assets of the terror network to deny the terrorists the resources they needed to finance their activities.[19] And, while conducting operations against al Qaeda, the United States sought to gain intelligence on the terrorist network. Intelligence gleaned from searches and interrogations would provide important leads in the fight against al Qaeda. As the war unfolded, some in the administration feared that key terrorist leaders would flee Afghanistan and escape to Iran, Pakistan, or Somalia, where they would be much harder to catch. As a result, the United States also sought to prevent the escape of al Qaeda leaders.[20]

The United States adopted a variety of approaches to convince or compel the Taliban to cease supporting al Qaeda. Initially, it issued demands that the Taliban hand over terrorist leaders and cease their support for al Qaeda. President Bush issued an ultimatum demanding that the Taliban turn over bin Laden and his associates or suffer the consequences of a U.S. attack.[21] The immediate goal of

the administration was not to destroy the Taliban, but the president and his advisors were willing to do so, if the Taliban failed to cooperate.[22]

When it became evident the Taliban would not agree to support U.S. objectives, the effort shifted toward destruction of the Taliban regime. Accordingly, U.S. strategy included efforts to kill, or capture key Taliban leaders. Foremost among them was Mullah Omar, the spiritual leader of the Taliban.[23] The United States also sought to destroy the regime's hard core, committed Taliban fighters, who kept the regime in power. Ultimately, U.S. policymakers sought to replace the regime with one more supportive of their objectives in the war on terrorism.[24]

The administration found a variety of ways to demonstrate support for the Afghan people. It conducted humanitarian assistance operations to provide the Afghans with food, clothing, medical assistance, and other basic necessities. In addition, the United States assisted private organizations in their efforts to aid the Afghan populace. Military forces also endeavored to minimize collateral damage.[25] Coalition forces hoped to avoid alienating the Afghans by limiting civilian casualties and damage to the civilian infrastructure.[26] In addition, the United States initiated an extensive demining program to eliminate the threat that mines posed to Afghans, as well as coalition forces.[27] And finally, its agents attempted to address the plight of women and children in Afghanistan by improving their living conditions, educational opportunities, and status in society.

As a critical component of this support, the United States also attempted to convey a sense of religious sensibility to avoid the impression that it was engaged in a war on Islam. Specifically, it avoided damaging mosques, openly debated whether or not to conduct military operations during the Ramadan religious holiday,[28] limited military operations during the Muslim Sabbath, and even changed the name of the military operation to avoid alienating Muslims.[29] In addition, the United States sought to gain support from Muslim states for the war in Afghanistan.

The administration also adopted several approaches to demonstrate its resolve. First and foremost, it was intent on executing a meaningful military response to the terrorist attacks. The view of

many in the administration was that recent terrorist attacks had not elicited a meaningful U.S. response. In 1998, al Qaeda bombings of the U.S. embassies in Kenya and Tanzania had killed more than 200 people. At that time, the Clinton administration responded by directing the U.S. military to launch a cruise missile attack against terrorist training camps in Afghanistan and a factory in Sudan. While making a political statement, the attacks had minimal impact on bin Laden and his terrorists.[30] To many in the Bush administration, that operation, and its failure to serve as a deterrent, was indicative of the U.S. response to terrorist attacks during the eight years of the previous administration. The Bush administration, by contrast, was eager to conduct a more meaningful military response; one that would clearly demonstrate U.S. resolve in the war against al Qaeda and its Taliban supporters, and thus deter future attacks.[31]

The administration frequently stressed its commitment to winning the war in Afghanistan. In an address to a joint session of Congress and the American people, President Bush promised the United States would use all of its resources in fighting the war in Afghanistan. He also vowed that, "we will be patient, we will be focused, and we will be steadfast in our determination."[32] The administration intended for the themes expressed in public statements to demonstrate its resolve. In part, these public statements also intended to dispel the notion that the United States was averse to taking risks and unwilling to accept casualties.

The U.S. Government was also intent on gaining and maintaining international support for the war in Afghanistan. To do so, it worked with existing international organizations to build support. Moreover, it required access, basing, and over-flight rights to conduct military operations in Afghanistan. Support from a variety of regional nations was essential in that regard. Accordingly, the United States sought cooperation from nations in southern and central Asia to support U.S. efforts in Afghanistan. Pakistan and Uzbekistan were two of the most important of those regional nations. The United States also sought to build a coalition to conduct military operations in Afghanistan. Coalition nations participated in a variety of ways, from providing ships, airplanes, and ground combat forces to supporting humanitarian assistance operations.

The United States adopted a number of approaches to prevent

the re-emergence of al Qaeda in Afghanistan and the future use of Afghanistan as a sanctuary for terrorist organizations. To do so, it worked to establish security and stability throughout the war-torn nation. After the fall of the Taliban, these efforts included establishment of a new Afghan government, creation of an Afghan police force, and development of an Afghan national army. The United States also began initiatives to support economic development. In addition, it initiated an extensive effort to rid Afghanistan of the vast quantities of weapons and munitions strewn throughout the country. This approach primarily aimed at denying remnant al Qaeda and Taliban fighters continued access to weapons and munitions. And finally, the United States sought to address the repressive social and religious conditions enforced for years by the ruling Taliban. In essence, the administration initiated a peacekeeping and nation building effort in post-Taliban Afghanistan.

The Means.

To implement the various approaches in its strategy, the United States employed all the elements of national power. As President Bush explained, "This war will be fought on many fronts, including the intelligence side, the financial side, the diplomatic side, as well as the military side."[33] Accordingly, the United States employed every traditional element of national power, diplomatic, economic, informational, and military, to fight al Qaeda and the Taliban, support the Afghan people, demonstrate resolve, build international support, and prevent the reemergence of terrorist organizations in Afghanistan.

Diplomatically, the United States worked to obtain support for operations against al Qaeda from international organizations and states. In this effort, it used diplomatic means to garner support from the United Nations and approval of a Security Council resolution. United Nations (U.N.) Security Council Resolution 1373 condemned all support for terrorism and called on member states to cooperate in the fight against terrorism. Moreover, it called on member nations to prevent the financing of terrorist acts and freeze the assets of terrorists and terrorist organizations. The United States also received

unprecedented support from the North Atlantic Treaty Organization (NATO). On September 12, 2001, NATO invoked Article 5, demonstrating that its member nations viewed the terrorist attack against the United States as an attack against all member nations.

Initially, the United States attempted to apply diplomatic pressure on the Taliban to cooperate in the fight against terrorism.[34] This effort aimed at exerting pressure on the Taliban to cooperate with the United States and break off support for al Qaeda. Eventually, the United States employed diplomatic leverage to isolate the Taliban and overthrow the regime. Following the defeat of the Taliban, it used diplomatic means to gain international support for a new government in Afghanistan.

The United States also engaged a variety of international and private organizations to lend their support to the Afghans. International organizations like the U.N., the World Health Organization, and the Red Crescent, continued to provide support to the Afghan people. A variety of private relief organizations also remained involved in Afghanistan. The United States relied primarily on diplomatic means to build and maintain international support. The administration mounted a concerted diplomatic effort to enlist international organizations, such as the U.N., the Organization of the Islamic Conference, and others. It was especially intent on gaining support for its efforts from Muslim organizations. Without that support, the United States could not conduct military operations in Afghanistan.[35] The territory of Pakistan and Uzbekistan was especially important in isolating and attacking al Qaeda and Taliban fighters in Afghanistan.[36] The United States also worked with other regional nations, such as Tajikistan and Turkmenistan, to close borders and prevent al Qaeda or Taliban fighters from escaping.[37]

To prevent the reemergence of terrorist organizations in Afghanistan, the United States again employed diplomatic power. It mounted a diplomatic effort to assist in the establishment of a new government in that country. The Department of State was instrumental in setting conditions for the Loya Jirga, an ancient Afghan process in which local representatives are selected and assembled to resolve broad political issues. Once the Loya Jirga process was complete, the State Department worked with international organizations to assist

the Afghans in establishing a new national government. In addition, it re-established the U.S. embassy in Kabul and provided diplomatic recognition for the new government, as soon feasible.

The United States used economic means to freeze the financial assets of the al Qaeda organization and deny al Qaeda access to other financial resources.[38] The Treasury Department froze the financial assets of terrorist organizations, terrorist leaders, front companies, and some nonprofit organizations that support terrorist groups. In addition, the United States used economic power to pressure foreign banks and financial institutions to cooperate in this effort. Although it could not directly influence foreign banks and financial institutions, Treasury could prohibit them from conducting transactions in the United States. It used this leverage to gain cooperation of a number of overseas banks and financial institutions.[39]

The United States employed economic means to support reconstruction and promote economic development in Afghanistan. Combining diplomatic and economic means, it was instrumental in setting up and conducting a conference in Germany for nations willing to donate funds for reconstruction.[40] Economic means also helped support establishment of the new Afghan government.

The administration used the media to convey support for the new Afghan government. It incorporated key themes in public statements to emphasize that the war in Afghanistan was not directed against Afghans.[41] Statements from the administration highlighted U.S. support for the Afghan people during the Soviet occupation in the 1980s and emphasized that the United States had no territorial desires or plans for permanent bases in the region.[42] In addition, during the process of establishing of new government, administration rhetoric avoided any suggestion that the United States was trying to determine who would run Afghanistan.[43] Likewise, the United States employed information as a means to demonstrate the war in Afghanistan was not against Islam. It used public statements to counter any suggestion that it was involved in a "crusade" or engaged in a war against the Islamic religion.[44] It also conveyed support for Afghanistan by working to improve educational opportunities, addressing human rights issues, and improving access to information in Afghanistan.

The United States also employed information to demonstrate its resolve. By mobilizing the government, the administration intended to convey a willingness to use every means at its disposal.[45] In essence, all of the diplomatic, economic, and informational efforts employed to accomplish other objectives also served to demonstrate commitment to the war in Afghanistan.

The most visible means employed by the United States involved military power. U.S. military forces conducted both conventional operations and unconventional warfare against al Qaeda. The United States employed air power to attack terrorist targets and destroy terrorist infrastructure. It relied heavily on special operating forces to conduct direct action against high payoff targets, special reconnaissance to gain intelligence on al Qaeda's network and key terrorist leaders, and unconventional warfare to gain the support of opposition forces and the Afghans. U.S. conventional ground forces searched for and destroyed al Qaeda fighters. In addition, naval forces conducted "leadership interdiction operations" in the North Arabian Sea to prevent the escape of al Qaeda leaders to safe havens in Somalia or Yemen.[46]

Other nations' military forces and paramilitary forces contributed to efforts against al Qaeda. The United States employed Taliban opposition forces, such as the Northern Alliance, as proxy forces to accomplish its objectives. Although these opposition forces normally engaged al Qaeda fighters in concert with U.S. military forces, they were a major component of the strategy, nonetheless. Coalition forces also participated in disrupting and destroying the al Qaeda network and conducted many of the same missions as U.S. forces, including conventional and unconventional operations. In particular, the United States relied heavily on Pakistani troops, who patrolled the border with Afghanistan, while operating against al Qaeda from inside Pakistan.[47]

The Central Intelligence Agency participated directly in disrupting and destroying the al Qaeda network. Agency paramilitary operatives coordinated with opposition forces, distributed large sums of money to buy arms, clothing, and supplies for those forces, and worked directly with coalition military forces to disrupt and destroy bin Laden's network.[48] Information also played an important

role in disrupting or destroying the network. The Central Intelligence Agency, foreign intelligence services, and a variety of military organizations worked to gather information, and share intelligence.[49] Military efforts included interrogation of detained terrorists, as well as operations conducted to gather intelligence from caves, training camps, safe houses, and meeting places. In addition, the Agency established a reward program, offering vast sums of money for intelligence on key al Qaeda leaders.

The United States employed the same military means against the Taliban as it employed against al Qaeda. U.S. forces conducted many of the same operational missions, including, air attacks, direct action, special reconnaissance, unconventional warfare, and conventional ground operations. Naval forces conducted leadership interdiction operations in the North Arabian Sea to prevent the escape of key Taliban leaders. Other military and paramilitary forces participated in the fight against the Taliban, just as they did in the fight against al Qaeda. Afghan opposition forces were an important element in the fight. Military forces from coalition partners also played a significant role. Paramilitary forces from the Central Intelligence Agency (CIA) also participated in fighting the Taliban, much as they did in fighting al Qaeda. CIA operatives focused primarily on intelligence collection efforts, but they also established liaison with leaders of the opposition forces and facilitated unconventional warfare operations.

To demonstrate support for the Afghans, the United States employed military means to conduct stability and support operations and provide assistance to Afghan civil authorities. Support from military forces included extensive humanitarian assistance, the opening of roads and airfields to facilitate those operations, escorts for humanitarian assistance convoys, and providing a degree of security for private organizations to operate effectively.

Military forces also employed rules of engagement and weapon systems that would minimize collateral damage. The rules of engagement prevented indiscriminate fires and often required collateral damage determinations before a target could be attacked. Moreover, by employing large numbers of precision guided munitions, U.S. and coalition forces could attack targets, while minimizing the chances of civilian casualties or damage to civilian

infrastructure. In essence, the United States used military forces to convey, in a variety of ways, that it had committed its forces to improving conditions in Afghanistan and helping the Afghan people.

To demonstrate resolve, the United States employed a variety of military means. It employed military forces in direct ground combat in Afghanistan. This employment of military forces included conventional forces, as well as special operating forces, to take the fight directly to the enemy. It inserted special forces early in the operation to begin the unconventional warfare effort. Other special operations forces conducted a daring raid on the compound of Mullah Omar, the leader of the Taliban. By mid-October, Marine forces had deployed into Afghanistan and were conducting operations in and around Kandahar. Army troops were soon deployed to continue the fight against the Taliban and al Qaeda. Each of these actions served to demonstrate resolve by directly involving U.S. forces in combat. In assuming the risks associated with ground combat, the administration hoped to dispel the notion that Americans were risk averse and unwilling to accept casualties. Overall, the United States employed air, ground, and maritime forces as a demonstration of U.S. commitment.[50]

The United States also used military means to build and maintain international support. A variety of military activities served to promote coalition building and support for the war in Afghanistan. The United States sought military contributions from nations around the world, integrated coalition troops, ships, and air forces, and employed coalition forces as part of a coordinated military campaign. These activities served to establish and maintain coalition support for the war in Afghanistan.

To prevent the reemergence of terrorist organizations in Afghanistan, the United States employed military means to provide security and stability. In addition, it used military forces to provide a safe and secure environment for the Loya Jirga process. Combining both diplomatic and military means, it supported establishment of the International Security Assistance Force, which provided security and stability around the capital in Kabul. A safe and secure environment facilitated the restoration of civil administration throughout Afghanistan. Finally, the United States used military

means to help establish a police force and army for the fledgling Afghan government. Thus, the United States used every element of national power to fight al Qaeda and the Taliban, support the Afghan people, demonstrate resolve, build international support, and prevent the re-emergence of terrorist organizations in Afghanistan.

ASSESSMENT OF THE STRATEGY FOR THE WAR IN AFGHANISTAN

More than a year after the terrorist attacks, the United States remains at war in Afghanistan. It continues to execute the national strategy formulated by the administration in the days and weeks following the attacks. Although the United States has enjoyed considerable success against al Qaeda and the Taliban, it has not realized its strategic objectives. The campaign in Afghanistan is still underway, and so far the United States has not been entirely successful in achieving its strategic ends.

The Fight against Al Qaeda.

The United States disrupted the al Qaeda network to a considerable degree, but has certainly not destroyed it. The administration wanted Osama bin Laden and other al Qaeda leaders killed, captured, or on the run, so they would be unable to plan and execute additional terrorist attacks.[51] To date, the United States has been successful in killing or capturing a number of key al Qaeda leaders, and in so doing, it has undoubtedly disrupted the al Qaeda network in Afghanistan and elsewhere in the world. Moreover, the war in Afghanistan has forced the leadership of that organization farther under ground, prompted many to run for cover, and has undoubtedly made their roles more difficult to perform.

However, many key leaders remain at large—their whereabouts unknown. Although the operation did not focus on bin Laden, the spiritual leader of al Qaeda remains on the loose.[52] Despite claims to the effect that bin Laden's capture was not a primary goal of the American effort, his ability to elude capture does have significance. As one commentator noted, "Any perception that bin Laden is

beyond America's reach is dangerous; it will only encourage other terrorists to emulate him."[53] Consequently, coalition troops and covert operatives continue to search in the mountains of eastern Afghanistan and western Pakistan hoping to discover bin Laden or other key al Qaeda leaders. In that sense, the United States has not been successful. While it may have initially disrupted the network, the organization remains a threat and continues to possess the capability to plan and execute attacks against the United States and its allies and friends throughout the world.

The administration also wanted to kill or capture low-level al Qaeda fighters. Again, the United States has been successful in killing or capturing many. During combat operations, the United States virtually destroyed the al Qaeda irregular forces, consisting primarily of the 5,000-man 55th Brigade.[54] In addition, its military forces captured thousands of al Qaeda fighters, many of whom remain incarcerated as detainees at Guantanamo Bay. In either case, the United States significantly disrupted the al Qaeda network by killing and capturing many al Qaeda fighters.

The United States was also successful in destroying infrastructure, freezing financial assets, and gaining information on the al Qaeda network. Its military forces destroyed terrorist training camps, safe houses, and other facilities used by the terrorists in Afghanistan. The administration saw the disruption of al Qaeda's financial network as an important aspect of the war against terrorism.[55] Although the exact impact is difficult to ascertain, efforts to deny the terrorists access to funds has made it more difficult for them to mount additional attacks. The United States used intelligence gleaned from searches and interrogations to further disable the terrorist network inside Afghanistan and facilitate other anti-terrorist operations outside Afghanistan.[56] All of these efforts disrupted the al Qaeda organization, and by employing the elements of national power and adopting a variety of approaches, the Bush administration increased the chances for success.

On the other hand, the United States may have missed an opportunity to destroy al Qaeda in Afghanistan completely. During the battle in the mountains and caves of Tora Bora, many of its fighters slipped away and escaped across the border into

Pakistan. In addition, others appear to have blended back into the local population and remain active in Afghanistan. Again, despite success in disrupting the network, al Qaeda remains a threat inside Afghanistan.

The United States has achieved limited success in fighting al Qaeda. That limited success is a reflection of two factors. First, the strategic objective may not have been achievable. While it may be reasonable to expect the United States to disable its network in Afghanistan, it may be too much to expect that al Qaeda could be destroyed. The nature of the al Qaeda network makes it difficult to find, engage, and ultimately destroy. In addition, Afghanistan and its neighbors, such as Pakistan, provide al Qaeda an abundance of hiding places, escape routes, and popular support. With respect to al Qaeda, the U.S. strategy should have included a more achievable objective.

Second, the military means employed against al Qaeda were not and are still not entirely appropriate. The military means employed in Afghanistan have not enabled the Coalition to surround al Qaeda, cut off the escape routes, destroy the hiding places, or obtain the actionable intelligence required to capture or kill al Qaeda leaders and fighters. To be completely successful, the U.S. strategy needed to include a better match between ends and means.

The Fight against the Taliban.

Similarly, the United States forced the Taliban from power in Afghanistan, but may not have compelled its members to cease their support for terrorist organizations. The United States was successful in removing the Taliban from power and denied terrorists sanctuary in Afghanistan, as well as the open support they received from the Taliban. In addition, it was successful in killing or capturing many Taliban leaders and fighters. However, many leaders of the movement remain at large and continue to support bin Laden. Mullah Omar, for example, remains in hiding in the rugged Afghan interior and continues to provide tacit support for his al Qaeda friends. In addition, Taliban fighters, who survived combat and avoided capture, have blended back into the population, where they

continue to threaten security and stability. These Taliban fighters have mounted a number of attacks against coalition forces and the new Afghan government. In the final analysis, military efforts against the Taliban were successful to some degree, but did not achieve everything for which the administration had aimed.

Diplomatic efforts produced similar results. The ultimatum issued by the administration did not convince the Taliban to cooperate with the United States. Its leaders refused to turn over bin Laden and his associates, and the Taliban refused to cease support for al Qaeda. Despite this fact, the ultimatum was an important diplomatic success. By issuing a public *demarche*, the United States gained a degree of legitimacy and international support in its fight against the Taliban.

Conspicuously absent in the Bush administration's strategy was a concerted effort to employ economic means in the fight. However, the impact of economic sanctions would have been limited in war ravaged and economically depressed Afghanistan. Moreover, the Afghan people would have suffered the consequences of economic sanctions, and this would have negatively impacted the administration's desire to avoid any impression that the United States was at war with the Afghan people.

Thus far, the United States has achieved only limited success against the Taliban. That limited success reflects the United States' inability to win the hearts and minds of the Taliban and its al Qaeda supporters in Afghanistan. Although the U.S. strategy included elements to address the issue, the United States has not been successful in convincing the Taliban to cease support for al Qaeda. It may never achieve that objective until it eliminates the causes of radical Islamic fundamentalism and the support it engenders in the Muslim world.

Demonstrating Support for the Afghan People.

The United States appears to have been more successful in demonstrating that the war in Afghanistan was not against the Afghan people or the Islamic religion. The humanitarian assistance effort was particularly successful in that regard. President Bush insisted on conducting a humanitarian assistance effort in conjunction with

military action.[57] As a result, military forces integrated humanitarian assistance from the outset of operations in Afghanistan.[58] Moreover, the humanitarian assistance effort limited the impact of war on the Afghan people and conveyed a sense of U.S. support. The inclusion of a humanitarian approach in the strategy worked to America's advantage.

However, the effort by coalition forces to limit collateral damage was somewhat less successful. Although the employment of precision guided munitions was essential in reducing the potential for collateral damage, military forces committed a number of highly publicized incidents of fratricide. Civilian casualties and damage to civilian infrastructure did occur. In one case, an Afghan wedding party may have been the unintended target of coalition fires. The United States was unable to sufficiently minimize collateral damage, which hindered its ability to obtain the full support of the local populace.

Demonstrating that the war in Afghanistan was not against Islam was another significant goal. The administration tried to demonstrate, in both words and deeds, that the United States was fighting a war against terrorists and terrorist supporters, not against Islam. Public statements, coupled with U.S. actions, helped convey that purpose for the war in Afghanistan.

Demonstrating Resolve.

Public statements and military actions also helped demonstrate America's resolve for the war and a willingness to accept casualties, if necessary to win the war. The administration elected not to limit its initial response to ineffective cruise missile attacks. Instead, the president selected the most robust military option, one that included commitment of U.S. troops to ground combat.[59] The United States employed special operations forces to work with the opposition forces early in the military campaign. Later, it employed conventional forces in combat operations. These employments demonstrated America's resolve by putting ground forces in Afghanistan to fight al Qaeda and the Taliban. In addition, the employment of U.S. forces placed American troops at risk, thus demonstrating the administration's

willingness to accept casualties. The United States may not realize the impact of this aspect of U.S. strategy for some time to come. It stands to reason, however, that this approach clearly demonstrated the administration's resolve and may provide a degree of deterrence against future attacks on the United States.

Gaining International Support.

The United States also was effective in gaining international support and assembling a coalition of nations willing to fight the war on terrorism. Ultimately, the administration's strategy achieved considerable international support, regional cooperation, and coalition participation. The U.N. Security Council, for example, passed a unanimous resolution condemning the terrorist attacks against the United States. In addition, NATO invoked Article 5, demonstrating that NATO viewed the terrorist attacks against the United States as an attack against all its members. Perhaps most telling was the strongly worded statement from the Organization of the Islamic Conference, a group representing 57 Muslim nations, which also condemned the attacks against the United States.[60] Equally important was the Coalition's operational involvement in support of post-conflict, nation building efforts in Afghanistan. The overall effect of this aspect of strategy was to provide legitimacy for the war in Afghanistan and lessen the burden of war on the United States.

Preventing the Reemergence of Terrorist Organizations.

The effort to prevent the re-emergence of terrorist organizations in Afghanistan is well underway, but not complete. Nation-building efforts continue, and military forces remain involved in providing security and stability. What is evident is that diplomatic efforts have overcome significant obstacles in establishing a viable central government in Afghanistan. In addition, the U.S. strategy included provisions for creation of an embryonic Afghan police force and army. Efforts to rid Afghanistan of mines, weapons, and munitions, as well as attempts to improve living conditions in Afghanistan, may

also contribute to ultimate success.

U.S. efforts will have been in vain unless the United States succeeds in establishing conditions that will prevent the reemergence of terrorist organizations in Afghanistan, and the use of Afghanistan as a terrorist sanctuary. In that sense, the last objective for the war in Afghanistan may be the most important. To achieve ultimate success in Afghanistan, the United States must ensure its strategy includes viable approaches and sufficient means to accomplishing this objective.

AN OVERALL ASSESSMENT OF U.S. STRATEGY

The ultimate goal of any strategy is to achieve its political objectives. In the final analysis, it appears the U.S. strategy for war in Afghanistan has been marginally successful. The strategy enabled the United States to disrupt the al Qaeda network and eliminate the sanctuary provided by the Taliban. Moreover, the strategy enabled the United States to focus the war on the terrorist organization and its supporters, demonstrate U.S. resolve in the war against terrorism, and gain broad international support. On the other hand, the strategy did not enable the United States to rid Afghanistan fully of al Qaeda or its Taliban support. More importantly, the strategy has not enabled the United States to restore a sense of security and stability to Afghanistan. Ultimately, success of the U.S. strategy will only occur when conditions in Afghanistan are no longer conducive for terrorist organizations to recruit new personnel, develop infrastructure, and plan and train for operations.

The great strengths of the current strategy, however, are that it includes a wide variety of ways and means and recognizes the many dimensions of the problem in Afghanistan. In formulating and executing the national strategy, the administration included several approaches to accomplish each objective. It did not limit the strategy to any single approach or rely solely on any single concept to achieve an objective. In addition, it incorporated every element of national power in its strategy and applied several elements of power to achieve each objective. In other words, U.S. strategy employed a variety of means in a variety of ways to achieve the

strategic objectives. This multi-faceted approach greatly increased chances for attaining the strategic objectives and may yet combine to produce ultimate success.

The multi-faceted strategy also reflected a recognition that success in Afghanistan would require more than just attacking al Qaeda and the Taliban. Accordingly, the strategy included other objectives, such as gaining international support and demonstrating U.S. resolve. Most importantly, the strategy included efforts to prevent the reemergence of terrorist organizations in Afghanistan and the continued use of that country as a sanctuary for terrorists. Any success against al Qaeda and the Taliban would only be temporary, unless the United States addressed the conditions that had allowed terrorists to thrive. In essence, the multiple dimensions of U.S. strategy enabled the United States to tear down the terrorist network, while building up a more stable Afghanistan. Ultimately, America can only succeed in Afghanistan by addressing both aspects of the problem.

IMPLICATIONS FOR THE FUTURE

Despite the successes of U.S. strategy, the implications of the war in Afghanistan do not bode well for the future. First, the war demonstrates how difficult it is to actually destroy terrorist networks. Although the United States showed it was capable of disabling the al Qaeda network, it was unable to destroy the organization. Al Qaeda fighters and many leaders still remain in Afghanistan. Although they may not enjoy the support of a state sponsor, they maintain the ability to continue their fight against the United States, as well as U.S. interests in Afghanistan. Many others in the organization appear to have escaped. Once outside of Afghanistan, they will be much harder to target and will likely continue their fight against the United States from other nations. Moreover, the organization includes cells in nations around the world. Even if the United States could destroy the network in Afghanistan, al Qaeda would remain a global threat. The war in Afghanistan may also teach terrorist organizations valuable lessons that will make U.S. efforts less effective in the future. Terrorist organizations, including al Qaeda, will likely attempt to exploit asymmetric advantages by learning

from U.S. efforts in Afghanistan and adapting to U.S. strengths, while exploiting its weaknesses. In the final analysis, the war in Afghanistan demonstrates that the United States may be able to disrupt terrorist networks, but will find it difficult, if not impossible, to destroy them completely.

Similarly, the war in Afghanistan also demonstrates how difficult it is to eliminate nonstate support for terrorist organizations. Although the United States showed it can defeat a state sponsor such as the Taliban, it has not entirely eliminated support in Afghanistan for terrorist organizations. In fact, Taliban fighters remain active in Afghanistan and continue to work in concert with al Qaeda. Moreover, terrorist organizations enjoy varying degrees of support in friendly states, as well as states that actually sponsor terrorism. This is a problem that will be difficult to overcome until the world, including the United States, addresses and eliminates the fundamental causes of terrorism. These causes include a diverse array of issues, from poverty and repression in authoritarian regimes, to the Israeli-Palestinian conflict.

The third major implication of the war in Afghanistan is the need for a multidimensional strategy for fighting terrorism. The United States will need to formulate and execute holistic strategies that incorporate a variety of ends, ways, and means, much as it did for the war in Afghanistan. By doing so, the United States can employ all of the elements of national power and increase its chances for success. It will not be enough for America to defeat terrorist organizations. U.S. strategy must also include efforts to address the fundamental causes of terrorism. To be successful in the long term, the United States and its allies must overcome the conditions that spawned the acceptance and growth of terrorism. That implies the need for a nation building aspect to U.S. strategy. In nation states that serve as terrorist sanctuaries, the United States will need to conduct nation-building efforts to permanently eliminate such sanctuaries.

A final implication involves the need to address national resolve and cost. The costs of fighting terrorist organizations, coupled with nation-building efforts, will be very expensive for the United States. Although the Bush administration demonstrated considerable resolve for the war in Afghanistan, America must be willing to

expend additional resources in the long-term fight against terrorism, in order to achieve long-term solutions. Moreover, fighting terrorist organizations and conducting nation-building will require an extended effort. America must also be ready for a protracted, global war against terrorism.

CONCLUSION

Following the terrorist attacks against the United States in September 2001, the Bush administration formulated strategic objectives for war in Afghanistan, developed a number of approaches to achieve each objective, and employed a variety of resources in executing each approach. The resulting strategy has only been marginally successful. As one commentator noted, "We have not failed in Afghanistan, but neither have we succeeded."[61] Although the United States continues its efforts in Afghanistan, there are already major implications for the broader war on terrorism. The war in Afghanistan demonstrates some of the difficulties in the fight against terrorism, to include the need for a holistic approach to the fight.

It remains to be seen whether American strategy for war in Afghanistan will ultimately succeed, as well as what the implications of the war will be for future conflict. It does appear certain that the United States must be prepared for a protracted, global war that addresses the fundamental causes of terrorism. As one commentator suggests, there may be no final triumph in the War on Terrorism, just as there will be no final triumph in the war on drugs, the war on crime, or the war on poverty.[62]

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CHAPTER 7

ADAPTABILITY: A NEW PRINCIPLE OF WAR

Lieutenant Colonel Brian Dickerson

> Preparing for the future will require us to think differently and develop the kinds of forces and capabilities that can adapt quickly to new challenges and to unexpected circumstances. An ability to adapt will be critical in a world where surprise and uncertainty are the defining characteristics of our new security environment. A culture of change, flexibility, and adaptability is more important to transforming the military than simply having new hardware.
>
> Secretary of Defense Donald H. Rumsfeld

"The ultimate goal of our military force is to accomplish the objectives directed by the National Command Authorities."[1] Supporting the National Security Strategy and the National Military Strategy, these objectives delineate a spectrum of military operations from major war to military operations other than war. "Joint Vision 2020 (JV 2020)" provides a guide for the transformation of America's Armed Forces in areas as diverse as experimentation, technologies, leadership, military education, operational concepts, and organizations.

It is clear that the United States aims at pursuing its global interests and responsibilities along a wide front. The U.S. military must win wars and contribute to peace.[2] Its forces will routinely shape the international security environment. "The joint force, because of its flexibility and responsiveness, will remain the key to operational success in the future."[3] That future force will need to be integrated intellectually, operationally, organizationally, doctrinally, and technically.

"JV 2020" highlights the requirement for a force that can adapt to changes in the strategic environment, leverage new technologies, and confront potential enemies, who will eventually adapt to U.S. strengths and weaknesses.[4] A key attribute of future American warfighting competence, leadership, and attitude must be an ability to

deal with uncertainty and change, defining characteristic of future environments.

The organization of the American military, its individual services and the individual military members, does not change quickly or easily. But the confluence of transformation, the rise in the threat of terrorism, exponential rates of technological change, a complex and unknown future, adaptable and asymmetric threats, a continuing move towards jointness and diverse missions compel the U.S. military to reevaluate itself. Any of these external forces individually would have brought about significant new challenges in their wake. Together, their impact is significant. Dogmas and paradigms, from service culture to operational concepts, from weapon systems acquisition to organizations, from strategy to tactics demand a new look. Many areas will require modification to maximize capability and efficiency in a world of fiscal constraints. No sacred cows should escape reassessment, including the "Principles of War." There are nine traditional principles of war: The Objective, The Offensive, Mass, Economy of Force, Maneuver, Unity of Command, Security, Surprise, and Simplicity.[5] Nevertheless, the U.S. military should add one more—Adaptability.

This chapter will not examine the standing principles as appropriate, necessary, nor even correct.[6] Instead, the current nine Joint principles form a base from which to depart. Thus, the chapter will seek to show that the principle of adaptability represents a valuable guide at the tactical, operational, and strategic levels of war and that its addition will aid the U.S. military across a wide spectrum of other activities. Finally, it will argue that the principle of adaptability could change the military's strategic culture in a positive fashion.

Adaptability, in the past, has been a largely unacknowledged component of military effectiveness. It also has been a significant factor in the success of great military leaders. In the future environment, adaptability will become a more significant keystone to future military operations. It has affected in the past, and continues to affect, American doctrine, strategies, deliberate and contingency planning, the acquisition process, operational concepts, training, and much more.

An examination of the history of the principles of war and how

they have impacted military organizations, strategic culture, doctrine, and strategy provides the background. Next, this chapter will turn to a definition of adaptability and differentiate it from flexibility, which is a key component in the definition of "maneuver." An examination of the major external forces acting upon the U.S. military, including transformation, will provide evidence as to why adaptability needs to be a principle of war. Finally, this chapter will provide a definition for adaptability.

HISTORY OF THE PRINCIPLES[7]

> Principle: 1. beginning, original or initial state; 2. that from which something takes its rise, originates or is derived; a source; the root; 3. a fundamental truth or proposition on which many others depend; 4. a comprehensive and fundamental law, doctrine, or assumption.
>
> *The Oxford English Dictionary*, Second Edition

What are the principles of war? In short, they represent neither a recipe nor a checklist for success. One cannot use them in isolation, and they demand a healthy dose of historical perspective.[8] They are, in essence, a theory of war, a model that attempts to bring some order to war's chaos. However, they are much more than just a theory; they provide a bridge between theory and application. They "guide warfighting at the strategic, operational, and tactical levels" and are the "enduring bedrock of US military doctrine."[9] They are time-tested principles that guide the employment of forces and shape the way that U.S. armed forces think about the use and employment of military power.[10] They are "guidelines that commanders can use to form and select a course of action."[11] The wisdom gained from study of the basic principles underscores that war is not a business for managers with checklists; it is the art of leaders.[12] "The principles of war guide and instruct commanders as they combine the elements of combat power. The principles reflect the distillation of [Army] experience into a set of time-tested guidelines."[13] They are part and parcel to a unique American military strategic culture, which is the

lens through which the U.S. military sees the world, its adversaries, and itself. They are the foundations for the way the American military fights.

The search for comprehensive and fundamental laws to understand war are at least as old as Sun Tzu. In their current Joint form, they evolved from the 1921 U.S. Army Field Training Regulation No. 10-5. The modern U.S. military has come to accept the current principles of war, not as laws that guarantee victory, but as considerations for the actions involved in the application of military power.

There have been innumerable examinations, modifications, additions, and deletions over the years. Many of these changes are often associated with technological improvements.[14] The constant examination of the relevance of these principles is a healthy and necessary activity, encourages intellectual discussion, and ensures that military organizations do not become bogged down in dogma. Air Marshal David Evans, Chief of the Air Staff, Royal Australian Air Force has noted; "[A]s with all other areas of conventional wisdom, of past values, past doctrine, the principles of war are to be questioned, to be tested and their continuing relevance verified."[15]

In their own ways, each of the great theorists of war has wrestled with the concept of principles. The U.S. principles of war in their present form have been the exception, versus the norm, in the history of principles. Other terms have been used in the past (law, rule, maxim, and axiom, to name a few) and have generally been long and drawn out rather than short aphorisms. However, the basic premise of "a comprehensive and fundamental law, doctrine, or assumption" is present in most of great theoretical works on war.[16]

Dead Guys and Principles.

In the opening of his *The Art of War*, Sun Tzu states that "[W]ar is a matter of vital importance to the State; the province of life or death; the road to survival or ruin. Therefore, appraise it in terms of the five fundamental factors and make comparisons of the seven elements." Sun Tzu recommended keeping only those generals who would follow his strategy and firing those who would not. He believed

he could predict winners and losers in any war on the basis of who followed his precepts.[17] These five fundamental factors and seven elements became the basis for his version for the path to success in war.

During his writing of *Arte della Guerra* (The Art of War), published in 1521, Niccolo Machiavelli discovered that there were certain fundamentals common and unchanging in previous writings on war. He included a set of general rules to guide a commander's actions in his work.[18] Many of the current nine principles can be seen in his rules and one in particular, implying the value of adaptability, suggests "nothing is of greater importance in time of war, than to know how to make the best use of a fair opportunity when it is offered."[19]

Historians most often associate the modern concept of principles of war with Antoine-Henri Jomini. The Swiss theorist argued that the principles were relatively few in number, but readily identifiable, and that these principles should guide a commander's actions in war.[20] In December 1807, he published a paper bringing together a list of ten paragraphs of "general truths whose application contributes to success in war." John Algers argues that Jomini's list represents the prototype of the modern principles of war.[21]

Some commentators also associate Carl von Clausewitz with the modern concept of principles,[22] but others point out that "he specifically rejected the notion that there could be any well-defined body of particular rules or principles that universally dictated one form of behavior rather than another."[23] Nonetheless, he did write a memorandum to the Prussian Crown Prince entitled *The Most Important Principles for the Conduct of War*. Not surprisingly, he starts the memorandum with a qualifier:

> These principles, though the result of long thought and continuous study of the history of war, have none the less been drawn up hastily, and thus will not stand severe criticism in regard to form. In addition, only the most important subjects have been picked from a great number, since a certain brevity was necessary. These principles, therefore, will not so much give complete instruction to Your Royal Highness, as they will stimulate and serve as a guide for your own reflections.[24]

The memorandum does list general, offensive, and defensive principles. In spite of Clausewitz's own warning, it is not difficult to find all nine of the modern principles of war in his memorandum and in *On War*. Again, one gains considerable insight when looking at how Clausewitz defines a principle. In fact, it is similar to how the modern U.S. military uses the term.[25]

> Principle is also a law for action, but not in its formal, definitive meaning; it represents only the spirit and the sense of the law; in cases where the diversity of the real world cannot be contained within the rigid form of law, the application of principle allows for a greater latitude of judgment. Cases to which principle cannot be applied must be settled by judgment; principle thus becomes essentially a support, or lodestar, to the man responsible for the action.[26]

Clausewitz goes on to argue that principles are indispensable concepts for that portion of a theory of war that leads to positive doctrines.[27]

Modern Times and Principles.

There have been a number of modern theorists and writers arguing both for and against the principles of war, in the 20th century. They include Marshal Foch, A.T. Mahan, B.H. Liddell Hart, J. F. C. Fuller, and Bernard Brodie. But, the first official U.S. acceptance of principles appeared in the 1921 U.S. Army Field Training Regulation 10-5. The list is surprisingly similar to the current official list over 80 years later (Table 1). Nevertheless, the list disappeared entirely from the next version of the Army's regulations. Although not officially listed as principles, they were included in subsequent regulations, modified by additions and deletions, over the next 28 years. In 1949, the present list again appeared and has remained roughly the same through to today.

1921 US Army Field Training Regulation 10-5	2002 Joint Publication 3-0
The Principle of the Objective	Objective
The Principle of the Offensive	Offensive
The Principle of Mass	Mass
The Principle of Economy of Force	Economy of Force
The Principle of Movement	Maneuver
The Principle of Surprise	Surprise
The Principle of Security	Security
The Principle of Simplicity	Simplicity
The Principle of Cooperation	Unity of Command

Table 1. U.S. Principles of War, 1921 versus 2002.

Between 1921 and 1949, a debate among military theorists centered on the format, value, number, and absoluteness of a set of principles of war.[28] The 1923 Field Training Regulation that deleted the principles, nonetheless, continued to refer to them. It did speak of the "concept" of principles.

> While the fundamental principles of war are neither very numerous nor complex, their application may be difficult and must not be limited by set rules. Departure from prescribed methods is at times necessary. A thorough knowledge of the principles of war and their application enables the leader to decide when such departures should be made and determine what methods should bring success.[29]

In 1934, Major E. S. Johnson of the U.S. Army Command and General Staff College noted "[T]he importance of evolving for our professional use a set of correct, simple, practical basic principles of war can hardly be exaggerated at this time. We live in a critical transitory stage. Great war seems to loom on the horizon—war perhaps much different, as to form and appearance, from our last

war."[30] Johnson also highlighted the "[J]ustification for principles of war as an inventory system . . . for the baggage of experience and professional study each warrior has."[31]

The debate over the past 80 years has been both healthy and necessary. Each of the U.S. services eventually accepted the same principles of war. The actual principles that each service lists have had minor variations over the last 3 decades. While there have been some differences in definitions, the current joint and service basic doctrine manuals each present the same nine principles.

PRINCIPLES IMPACT ON THE U.S. MILITARY

> The principles of war guide warfighting at the strategic, operational, and tactical levels. They are the enduring bedrock of U.S. military doctrine.
>
> *Joint Pub 3-0*

The influence of the principles of war on the American military is pervasive. Their effect is both obvious and subtle. The principles are obvious when officers talk about doctrine, plan operational campaigns, or execute tactical maneuvers. There effects are not as readily apparent in discussions about strategy or envisioning future military forces. From the beginning to the end of an officer's career, the principles are present through formal and informal education and training. The officer corps makes choices and influences decisions, which have significant impact in areas such as tactics and operations development, theater strategic and operational planning, envisioning future military capabilities and concepts, technological research and development, organizing the military, training warriors, educating leaders, identifying requirements, allocating resources, acquiring material, and much more.

Principles and Strategic Culture.

Sun Tzu commented, "Know the enemy and know yourself; in a hundred battles you will never be in peril."[32] To know itself, the American military must know the existence and impacts of strategic

culture. Strategic culture is complex. The nation's geography, history, traditions, values, attitudes, patterns of behavior, habits, achievements, particular ways of adapting to the environment, and solving problems with respect to the threat or use of force are the ingredients of strategic culture.[33] Each element combines to create or modify the American strategic culture. Strategic culture is the why, when, and how the nation and its military fight wars. It is a reflection of the nation's moral and idealistic values, traditions of exploration, and attitudes toward technological solutions. The principles of war represent an important element in the American strategic culture. It is not easy to find something military that strategic culture, and through it the principles of war, do not influence in one form or another.

Military officers receive mission objectives. They formulate plans to accomplishment those objectives. They use their experiences of past successes and failures, recommendations from others based on their experiences, their education, their professional background, service and joint doctrine, and the principles of war to develop plans. Each input can be clouded by strategic culture.[34] The American strategic culture has a tendency to superimpose its values on other cultures. Americans assume the things important to them are important to others, and that the rest of the world sees the problems, solutions, and benefits in the same way. One commentator has noted that it is "dangerous for the West in general, and for Americans in particular, to believe that others view strategy and the nature and uses of force through an Anglo-American lens."[35]

The principles of war represent more than just the foundation of doctrine or a tie between theory and application. They are the lessons from past conflicts. They have become the foundation for how the American military employs force. They are an important part of the American strategic culture. Moreover, through strategic culture, the principles have become the basis, whether conscious or subconscious, for many of the decisions the American military makes. Strategic culture and the principles affect and will continue to influence the purchase of combat equipment. The military buys tanks, aircraft, and ships because they support the belief that these weapons are the most successful way to accomplish war as expressed

in the principles. Stealth aircraft, for example, embody the principles of maneuver, surprise, and maintaining the offensive.

Strategic culture and the principles even filter future operational concepts. "JV 2020" lists four operational concepts for the military; Dominant Maneuver, Precision Engagement, Focused Logistics, and Full Dimensional Protection; all support the overarching concept of Full Spectrum Dominance.[36] The descriptions of these concepts contain numerous references to the principles of war. The operational concept of dominant maneuver uses "unmatched speed and agility in positioning and repositioning tailored forces from widely dispersed locations to achieve operational objectives quickly and decisively."[37] Within that relatively short statement are at least five of the principles of war; maneuver, surprise, security, objective, and offensive. Thus, the U.S. military sees the future (and everything else) through filters from the past.

Principles and Strategy and Doctrine.

The principles of war influence military strategy through filters developed by strategic culture and historical experience. In the introduction to *The Making of Strategy: Rulers, States, and War*, the authors describe the strategy process and "its constant adaptation to shifting conditions and circumstances in a world where chance, uncertainty, and ambiguity dominate."[38]

> Historical experience creates preconceptions about the nature of war and politics and may generate irresistible strategic imperatives. And ideology and culture shape the course of decision-makers and their societies in both conscious and unconscious ways. Not only may ideology and culture generate threats where a different perspective would see none, but their influence usually shapes perceptions about alternatives.[39]

The principles also influence doctrine. "Military doctrine presents fundamental principles that guide the employment of forces."[40] It represents an accumulation of knowledge, reflecting combat and training experiences, experimentation, and analysis of theory. It is basically a guide to the best way to prepare and employ U.S. military forces.[41] The principles have provided the basics of joint

warfare and the foundation of joint and individual service doctrine.

Clausewitz tells us that the nature of war is universal. But, the application of war is a cultural phenomenon and therefore heavily influenced by strategic culture. Geography, politics, historical context, and social norms all affect the application of force. The Roman empire and its warrior state, Mao Tse-Tung's support of a guerrilla style of warfare, and the American dependence on power projection and technology, all reflect unique sets of circumstances and very different strategic cultures.

The historical basis of the principles of war supports the Clausewitzian ideal of developing theory, strategy, and doctrine by examining the historical record.[42] Lieutenant Commander Dudley W. Knox, USN, identified the relationship between the principles of war and doctrine when he wrote in 1915 that "military doctrine are beliefs or teachings which have been reasoned from principles; that is they flow from principles as a source. They are intended to be general *guides to the application* (emphasis in original) of mutually accepted principles, and thus furnish a practical basis for coordination under the extremely difficult conditions governing contact between hostile forces."[43] He went on to discuss the increased number of possible solutions to situations involving the application of several different principles and doctrines, which implies the value of the concept of adaptability as a principle and as a means to avoid inflexibility and dogma.[44]

Principles and Joint Warfare.

The Goldwater-Nichols Act mandates joint warfare. At the basic level, joint warfare is, or should be, one of the core competencies of the U.S. armed forces. Fighting the joint fight is the wave of the now and the future. Regardless of the nature of the battle or the composition of the force, the military will fight a joint fight . . . "the days of single service warfare are gone forever."[45] The nature of war has not changed. It is still an interaction between living, thinking, reacting humans. However, the increased quantity of information and the complexity of the battlefield place a greater weight on the value of adaptability.

> War is a human undertaking that does not respond to deterministic rules. Indeed, the rapid advance of technology and the diversity of threats to national interests have accelerated and amplified the effects of the traditional obstacles to military operations of friction chance, and uncertainty. The cumulative effect of these obstacles is often described as "the fog of war" and places a burden on the commander to remain responsive, versatile, and able to adjust in real time to seize opportunities and reduce vulnerabilities. This is the art of war.[46]

The principles' influence on Joint warfare is crucial. They are universally accepted by all of the services. The principles provide a common starting point for warfighting discussions. They also form the launching platform for planning the military's future. Table 2

Current Joint Doctrine Principles of War, Principles for MOOTW, and Fundamentals of Joint Warfare			**Evolving Fundamentals of 21st Century Joint Warfare and Crisis Resolution**
Principles of War (JP 1-0 & 3-0)	**Principles for MOOTW (JP 3-0 & 3-07)**	**Fundamentals of Joint Warfare (JP 1-0)**	
•Objective	•Objective		•End State
•Offensive		•Initiative	•Initiative
		Freedom of Action	
•Mass		•Concentra-tion	•Application of Combat Power
•Economy of Force	•Restraint	•Extension	
•Maneuver			•Joint Maneuver
			•Tempo
•Unity of Command	•Unity of Effort	•Unity of Effort	•Unity of Effort
•Security	•Security		•Safeguarding the Force
•Surprise			•Shock
•Simplicity		•Clarity	•Understanding
		•Knowledge	
	•Perseverance		•Will
	•Legitimacy		•Legitimacy
		•Sustainment	•Sustainability
		•Agility	•Adaptability

Table 2. Evolving Joint Warfare and Crisis Resolution Fundamentals.[49]

depicts a common joint warfighting perspective approved by the Joint Requirements Oversight Council. These evolving fundamentals will guide the emerging American way of joint warfare and crisis resolution. They provide direction and are the continuity needed for future fighting force development.[47] These thirteen 'new' aphorisms may eventually replace the current principles of war.[48]

DEFINITION OF ADAPTABILITY VERSUS FLEXIBILITY

> Adapt: 1. To fit (a person or thing to another, to or for a purpose), to suit or make suitable; 2. To alter or modify so as to fit for a new use. 3. To undergo modification so as to fit for a new use.
>
> *The Oxford English Dictionary,* Second Edition

> Flexible: 1. Capable of being bent, admitting of change in figure without breaking; yielding to pressure, pliable, pliant; 2. Willing or disposed to yield to influence or persuasion; capable of being guided, easily led, impressionable, manageable, tractable.
>
> *The Oxford English Dictionary,* Second Edition

Adaptability is fundamentally different from flexibility.[50] Flexibility is reactive or defensive by its nature. From the definition, flexible suggests bending, but not breaking, to an enemy or external force. However, the implication is that the enemy is driving the change. Conversely, adaptability has an active or offensive perception, which the U.S. Marines emphasize in their Fleet Marine Field Manual 1-0, *Leading Marines.*

> Adaptability has long been our key to overcoming the effects of frictions and its components. Although it is synonymous with flexibility, adaptability also embraces the spirit of innovation. Marines constantly seek to adapt new tactics, organization, and procedures to the realities of the environment. Deficiencies in existing practices are identified, outdated structure discarded, and modifications made to maintain function and utility. The ability to adapt enables Marines to be comfortable within an

> environment dominated by friction. Experience, common sense, and the critical application of judgment all help marine leaders persevere.[51]

Adaptability is associated with initiative, ingenuity, imagination, agility, and innovation. Lieutenant General Victor H. Krulak, USMC (Ret) once commented, "Most often, the ingredients of victory are initiative, resourcefulness, adroitness, and improvisation . . . another way of describing adaptability, long a way of life for Marines."[52] Adaptability implies multiplicity in uses for the basic framework of doctrine, equipment, or personnel all of which should be adaptable to multiple situations, threats, or environments. This is important considering the uncertainty of the future threat and environment, the expansion of missions, the long lead times for hardware development and the increasing expense of weapons systems.

WHY ADAPTABILITY? . . . WHY NOW? . . . WHAT HAS CHANGED?

> Our challenge in this new century is a difficult one. It's really to prepare to defend our nation against the unknown, the uncertain and what we have to understand will be the unexpected. That may seem on the face of it an impossible task, but it is not. But to accomplish it, we have to put aside the comfortable ways of thinking and planning, take risks and try new things so that we can prepare our forces to deter and defeat adversaries that have not yet emerged to challenges.
>
> Secretary of Defense Donald H. Rumsfeld

The convergence of several factors now and in the near term stresses the need to include adaptability as a principle of war. First is the uncertainty of the future environment. Increasing operations tempo and diversity of missions, rapid and increasing rates of change in technologies, especially information technologies, and adaptable adversaries will blur future force requirements. Second

is the significant rise in the nature and scope of the terrorism threat. Last is transformation and the continuing move towards jointness.

Uncertainty of the Future.

> [T]he focus . . . is the third element of our strategic approach—the need to prepare for an uncertain future.
>
> U.S. Joint Chiefs of Staff, *Joint Vision 2020*

The future environment is a major element in determining the shape, size, and capabilities of the U.S. military. Three "Joint Vision 2020" factors guide the American military force-planning effort. First, the United States will continue to be globally engaged with various world and regional actors. Security and economic interests and political and social values will drive U.S. policy, while the military instrument will continue to remain a viable element of national power. There is no indication that war or the threat of war will cease to exist in the future. An ever-widening transportation and communications net and rapidly expanding information technologies will increase world interdependence and provide the inertia to continued globalization.[53]

Next, the expanding availability of the Internet and other information technologies will tend to "level the playing field" with respect to access to new and developing technologies at relatively low costs. Globalization will spread access to a commercial industrial database. This will give potential adversaries access to much of the same technology as the U.S. military.[54] Finally, America's adversaries will modify their strategies and operational and tactical capabilities in an attempt to reduce U.S. technological advantages. Other state and nonstate actors will challenge current U.S. military dominance in a variety of innovative and asymmetric ways.[55] They will not remain static in the face of American capabilities. They will adapt.[56]

The future environment requires the current military to transform. A key challenge to successful transformation is the pace of technological change and its impact on the strategic environment. The U.S. military must "place a premium on our ability to foster innovation in our people and organizations across the entire range

of joint operations."[57] In the context of a military organization that is resistant to change, adaptability is the key to success in an uncertain future. Adaptability as a principle of war, and thus part of strategic culture, will link the American military's current and future forces. Strong core capabilities derived from current force structure and legacy systems will continue to deter conflict and when that fails, win wars. Transformation will combine developing technologies with new doctrine and concepts implemented through new organizations that maximize the future American military's capabilities. Adaptability is the bridge that will allow the U.S. military to modify existing core competencies to meet the future mid-term strategic realities.[58]

The Rise in Terrorism.

> In the few months it took to topple the Taliban regime, U.S. forces proved highly adaptable. They went to war in Afghanistan without an on-the-shelf plan in a very difficult environment. They showed ingenuity in tackling the challenges of operating half way around the world in some of the most forbidding terrain on the planet. And the fact that a key breakthrough at Mazar-i Sharif was secured by the first American cavalry charge of the 21st century merely underscores the point. This capacity for adaptation is a precious commodity. It will be essential not only in the ensuing phases of the war against terrorism but also in transforming the Armed Forces to cope with the very different challenges that will emerge in the future.
>
> Secretary of Defense Donald H. Rumsfeld

The September 11, 2001, the attack on the United States changed the focus of the American government, people, and military. Terrorism is not new. Nevertheless, it has not been a driving factor in U.S. military planning or thought. Terrorism is a "tool of the weak," with potential dramatic strategic effects.[59] Yet, it is now a major feature in the future environment and is a major factor driving the requirement for adaptability in the military.

The Code of Federal Regulations defines terrorism as: "the unlawful use of force and violence against persons or property to

intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives."[60] Terrorism traces back to the Ancient Greek and Roman Republics. According to the U.S. Code's definition, the assassination of Julius Caesar on the Ides of March in 44 B.C. was an act of terrorism.[61] In the first century, Jewish religious nationalists known as The Zealots-Sicarii (dagger-wielders) "carried out terrorist attacks on Roman officials and Jews considered to be Roman collaborators."[62] For over 200 years between 1047 and 1296, the Hashishim (the Assassins) prosecuted a campaign of terrorism in northern Iran.[63] And one of the best illustrations of the impact terrorism can have was the assassination of the Austrian Archduke Ferdinand in 1914, an act that precipitated the First World War and 4 years of carnage.[64]

A modern view of future terrorism divides terrorists and their organizations into four different categories; individual terrorists, national liberation movements, state sponsored terrorists, and millenarian terrorists. The millenarian terrorist presents the greatest danger to the United States. The millenarian terrorist's vision of the future does not include anything Americans would call civilization. They would be "willing to use any means of violence, including weapons of mass destruction" in the pursuit of those goals.[65] Stealthy movements across international borders, secure operations, and extreme procedures against penetration from outsiders will characterize their organizations. They will plan and coordinate operations by combining old fashion couriers and new technology communications systems. Increasing globalization provides the cover from which they will operate.[66] "But above all, the terrorist of the 21st century will prove adaptable to the environment in which they chose to fight."[67]

Such an opponent is not greatly affected by diplomacy or the traditional use of the military instrument of power. Nevertheless, the military will be called and must prevail in this war. This fight is for the survival of the United States and its ideals and freedoms.[68] "The key is to adapt with changing times and a different enemy."[69] Adaptability, ingenuity, innovation, these must be the attributes of a military that will face and defeat terrorism.

Transformation.

> One of the things that we don't want to leave behind as we move toward tomorrow is the ability to think, the ability to adapt, the ability to do things that the Soviet Union was not able to do and is no more.
>
> General Tom Franks

Transformation in the military is the most important reason to add adaptability to the principles of war. On the future battlefield, adaptability provides another guide to the conduct of war. As part of the strategic culture, it will allow the military to excel in the uncertain future. Transformation requires adaptability and innovation to get to the future. The Department of Defense defines transformation as:

> a process of change that involves developing new operational concepts, experimenting to determine which ones work and which do not, and implementing those that do. Transformation deals with changes in the way military forces are organized, trained, and equipped; changes in the doctrine, tactics, techniques, and procedures that determine how they are employed; changes in the way they are led; and changes in the way they interact with one another to produce effects in battles and campaigns. The objective of the transformation process is to realize military capabilities that can deal effectively with the new demands of a changing security environment. Transformation involves preserving current U.S. strengths, meeting new threats and environments, and exploiting new opportunities. To some extent, transformation means accelerating the development and fielding of capabilities that we know we need. But it also means exploring capabilities that are less well understood, and correcting the course we are on, as necessary, to ensure that those needed new capabilities are realized.[70]

Large organizations have a difficult time with major changes of direction.[71] But for the American military, transformation is a basic requirement. In his 2002 report to the President and the Congress, Secretary Rumsfeld reported "transforming the U.S. Armed Forces is necessary because the challenges presented by this new century are vastly different from those of the last century."[72]

Transformation has three dimensions; conceptual, cultural,

and technological. Technology alone has never been the answer to transformation.[73] It is only a small part of the answer. It represents an enabler that allows the military to explore new ways of fighting.[74] Transformational gains in the U.S. military require changes in how war is conceptualized, in how the military is organized, and in its strategic culture. The attack on Mazar-e Sharif, Afghanistan provided the first cavalry attack of the 21st century and showed "that a revolution in military affairs is about more than building new high tech weapons . . . it's also about new ways of thinking, and new ways of fighting."[75]

The most significant of the three dimensions of transformation is strategic culture. "Values and culture are a vital institutional counterweight to the innate conservatism of military hierarchies and the inertia of large bureaucracies."[76] For successful transformation, the most important cultural characteristic is adaptability. Identifying adaptability as a principle of war would provide impetus to change the American military strategic culture.

Four factors influence innovation and transformation; development of a balanced and operational realistic vision, bureaucratic acceptance, institutional processes for testing and refining concepts, and chance.[77] Strategic culture can affect each of these factors. A strategic culture that encourages innovation and adaptation is essential to successful transformation. The culture must encourage leaders and subordinates to assess and reassess situations critically and adapt, if necessary, to the current circumstances. "Preparing for the future will require us to think differently and develop the kinds of forces and capabilities that can adapt quickly to new challenges and to unexpected circumstances. An ability to adapt will be critical in a world where surprise and uncertainty are the defining characteristics of our new security environment."[78]

ADAPTABILITY IN WAR

> Its [war's] violence is not of the kind that explodes in a single discharge, but is the effect of forces that do not always develop in exactly the same manner or to the same degree. At times they will expand sufficiently to overcome the resistance of inertia or friction; at others they are too weak to have any effect. War is a pulsation of violence, variable in strength and therefore variable

> in the speed with which it explodes and discharges its energy. War moves on its goal with varying speeds; but it always lasts long enough for influence to be exerted on the goal and of its own course to be changed in one way or another; long enough, in other words, to remain subject to the action of a superior intelligence.
>
> Carl von Clausewitz, *On War*

Clausewitz refers to military warriors and leaders who not only must survive in the chaos of war but must also operate and accomplish missions successfully in accordance with the bigger picture. His concept is that the nature of war changes war itself, as it occurs, and that these changes are unpredictable. The events in war represent nonlinear interactions between living, thinking, and reacting humans. Clausewitz's chance, fog, and friction combine to make war unpredictable and in a constant state of change. The continuous interaction and feedback process fundamental to war is itself an agent forcing uncertainty and change in the character of any war. In other words, war changes itself. Such an environment demands adaptability to account for unplanned, unpredictable, and unforeseeable opportunities and setbacks.

Fog, friction, and chance permeate the battlefield. The complexity found in war is a reflection of its nonlinear nature. Nonlinearity guarantees no two wars will ever be the same and that even within the same war, the structure may prove unstable. War is so complex that imperceptibly small events can lead to significant and massive changes in the system. The production of unchanging laws or principles can lead to defeat. "Adaptability is as important in doctrine as on the battlefield."[79]

In War and Planning.

Military planning has long known the value of adaptability. The U.S. Army anticipates that operations "never proceed exactly as planned" and places a premium on adaptability in plans.[80] Using branches and sequels to account for contingencies, unanticipated events, opportunities, successes, failures, and stalemates, Army planning reflects the American military's sense of the importance

of adaptability.[81] B. H. Liddell Hart argued for adaptable plans, when he suggested "[T]o be practical, any plan must take account of the enemy's power to frustrate it; the best chance of overcoming such obstruction is to have a plan that can be easily varied to fit the circumstances met; to keep such adaptability, while still keeping the initiative, the best way to operate is along a line which offers alternative objectives."[82] Field Marshal Helmuth Graf von Moltke described war's complex environment and argued for commanders to use genius, experience, education, and adaptability.

> The material and moral consequences of any larger encounter are, however, so far-reaching that through them a completely different situation is created, which then becomes the basis for new measures. *No plan of operations can look with any certainty beyond the first meeting with the major forces of the enemy* (emphasis added). The commander is compelled during the whole campaign to reach decisions on the basis of situations which cannot be predicted. All consecutive acts of war are, therefore, not executions of a premeditated plan, but spontaneous actions, directed by military tact. The problem is to grasp, in innumerable special cases, the actual situation which is covered by the mist of uncertainty, to appraise the facts correctly and to guess the unknown elements, to reach a decision quickly and then to carry it out forcefully and relentlessly . . . . It is obvious that theoretical knowledge will not suffice, but that here the qualities of mind and character come to a free, practical and artistic expression, although schooled by military training and led by experiences from military history or from life itself.[83]

The campaign against Iraq's ballistic missile forces during the Persian Gulf War provides a glimpse at how pre-war expectations did not match actual wartime conditions and the how American military forces then adapted. The DESERT STORM air plan contained four key phases; the strategic air campaign, air supremacy in the Kuwaiti theater of operations, battlefield preparation, and support of the ground offensive.[84] In August 1990, Central Command planners did not include Iraq's ballistic missile capability in their target sets, but by December 1990, 13 SCUD facilities were on the strategic air campaign target list. Planners knew that some number of mobile launchers would escape destruction. The leaders and planners regarded the missiles "chiefly as nuisance weapons that might cause

political difficulties" and "as posing little tactical or operational threat to the Coalition." [85] Their plan reduced the offensive threat by attacking "fixed launch sites, support bases, production facilities, potential hide sites, and support facilities for mobile launchers, but not the launchers themselves."[86] The planners mirror-imaged the Soviet employment doctrine on the Iraqi military. This resulted in over-confidence in their ability to find, fix, target, and destroy the ballistic missile threat. No one in Central Command "devised, before the war, a search-and-destroy scheme for dealing with them [mobile SCUD launchers]."[87]

SCUD launches into Israel and Saudi Arabia highlighted the failures in initial planning. Sorties dedicated to SCUD hunting increased, as planners adapted to the current realities. However, more telling than the increase in dedicated sorties was the scope of the overall search for a solution to a problem that would not be solved by the war's end.[88] The search for an answer included previously untried uses and combinations of American military power. Space-based assets, intelligence annalists, Patriot surface-to-air missiles, ATACMS, E-8 Joint STARS, F-15E, Tornado, F-16C, B-52, F-117, A-10, Tomahawks, and American and British SOF all contributed to attempts at solving the SCUD problem. While these efforts may have failed in a tactical sense, the continuous adaptation was strategically significant in that it kept Israel from engaging with its own military.[89]

In Policies and Strategies.

The interactions of conflict affect even the highest levels of war. The political aim and the strategies to attain that aim are not exempt from war's effects. "It [the political aim] must adapt itself to its chosen means, a process which can radically change it."[90] Therefore, strategy must adapt if the political aim changes. History suggests that strategic assessment and re-assessment is a common theme in victory. Changes in the nature of the conflict caused by a thinking and reactive adversary drive strategic adaptation. Failure to adapt can be fatal. "The great failure of the generation of military leaders in World War I was their refusal (with notable exceptions) to adapt quickly to change."[91]

In the Peloponnesian War, the Spartans adapted their strategic framework better than the Athenians over the course of the 30-year war. Eventually, the Spartans, a traditional land power, learned how to fight the Athenians, a traditional naval power, "on the sea well enough to win."[92] The Corinthians described the Athenians to the Spartans before the war as "swift, aggressive, and innovative." However, in the end the "slow, traditional, unimaginative Spartans" were better able to adjust and adapt to the changes brought about by the course of the war.[93]

The near fatal disasters of the Second Punic War 150 years later would precede the rise of the Roman Empire. Hannibal's victories forced the Romans to adapt their strategic framework. A brutal warrior state, Roman warmaking was primarily one that went for the kill; it was ruthless and free of any competing political demands. A retreating, defensive, attrition strategy failed to fit that paradigm.[94] Nevertheless, confronted with Hannibal's operational military genius and his victories at Trebbia, Trasimene, and Cannae, that threatened the very existence of the Republic, Roman dictator Fabius modified Roman strategy.[95] The adapted strategy refused battle and harassed the enemy's army.[96] It substituted "practical discretion for traditional valor and retreat before the enemy in order to avoid a fourth, possibly fatal defeat."[97] Rome was able to modify and adapt its previously successful military strategy to survive. A century later, Polybius would highlight one of the Romans' strengths as the ability to adapt customs, weapons, and tactics to "emulate what they see is better done by others."[98]

In Operational Art.

One of the turning points and key battles of the American Civil War was the Vicksburg campaign.[99] Union General Ulysses S. Grant adapted his operational plans to reflect the reality of the actual situation. The strategic context, battle failures and successes, terrain, logistics, resources, and the enemy's actions and reactions all forced changes in his 6-month campaign. However, he always kept the strategic context of the campaign as a primary and unwavering factor in his plans.[100]

Grant's initial plan attacked along traditional lines of

communications from his bases in Tennessee south towards Vicksburg.[101] He used railroads and roads to maintain lines of supply. The plan failed when Confederate cavalry attacked his supply depots and "demonstrated the impossibility of maintaining so long a line of road over which to draw supplies for an army moving in an enemy's country."[102] Grant abandoned that line of attack. Next, he used the previous attack routes as a deception to support the primary attack from the Chickasaw Bayou.[103] The plan called for the use of the Union controlled Mississippi River as the "line over which to draw supplies."[104] Although, the Mississippi River would provide Grant a secure line of supply, the Confederate defenses along the Vicksburg cliffs proved to be insurmountable obstacles to Union attacks. Again, Grant looked for another way.

Still using the Mississippi River as the primary route, Grant changed his plans. In an attempt to bypass the Chickasaw Bayou, his forces maneuvered through the secondary creeks, rivers, and bayous to arrive north of Vicksburg.[105] This plan also failed. Continuing to look for a solution to the problem of defeating the Confederate forces, Grant modified his plans again. The resulting plan used an indirect approach and eventually led to victory.

Grant would adapt the final version of his campaign in May 1863. An amphibious landing near Grand Gulf established a beachhead south of Vicksburg, while major diversions held the enemy's attention. Grant planned to use Grand Gulf as a base of supply. The west bank of the Mississippi River provided a secure, albeit long, supply route. A change in the status of Union forces finalized Grant's last and most radical adaptation to his plan.[106] In order to continue to maneuver and maintain pressure on the enemy, Grant decided to "cut loose from my base" and supply the entire Army off the land.[107] This was a risky move since "it had not been demonstrated that an army could operate in an enemy's territory depending upon the country for supplies."[108] Ultimately, this allowed Grant to position his army for the successful siege of Vicksburg.

ADAPTABILITY IN THE MILITARY

> Victory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after they occur.
>
> General Giulio Douhet

The American military values adaptability as a warfighting attribute. Throughout recorded history, theorists have argued for adaptability. Sun Tzu underlined the need for armies and leaders to adapt to the current environment: "As water has no constant form, there are in war no constant conditions. And as water shapes its flow in accordance with the ground, so an army manages its victory in accordance with the situation of the enemy."[109]

The U.S. Army values doctrine that is "rooted in time-tested principles but is forward-looking and adaptable to changing technologies, threats, and missions. Army doctrine is detailed enough to guide operations, yet flexible enough to allow commanders to exercise initiative when dealing with specific tactical and operational situations."[110] The Army recognizes

> the ambiguous nature of the operational environment requires Army leaders who are self-aware and adaptive. Self-aware leaders understand their operational environment, can assess their own capabilities, determine their own strengths and weaknesses, and actively learn to overcome their weaknesses. Adaptive leaders must first be self-aware - then have the additional ability to recognize change in their operating environment, identify those changes, and learn how to adapt to succeed in their new environment."[111]

The Army has successfully adapted to changing conditions, new technologies and emerging threats in the past. The American soldier's ingenuity and innovation will continue to serve America during this period of transformation.[112]

The U.S. Navy identifies five core competencies and four key attributes of its sea-based expeditionary force. The first on the list of competencies and attributes is adaptability. Naval forces are "capable of adapting to a variety of situations ... and can support the many challenges facing our theater Combatant Commanders."[113] Forward-deployed naval forces provide the nation with an organically supported, combined arms force that "can adapt at a moment's notice to emergent needs."[114] Those forward deployed forces require exceptional leaders. The "unique and unforgiving nature of the sea has demanded that naval forces and their leaders have not only a clear sense of purpose and extensive levels of training, but the

flexibility to adapt to a changing enemy/environment in order to be victorious."[115]

The U.S. Marines are the epitome of adaptability. They even describe war as a "process of continuous mutual adaptation, of give and take, move and countermove."[116] They argue that success follows the ability to adapt, to proactively shape the environment as well as react to changing conditions. Proactive shaping includes the identification and creation of opportunities instead of "adhering insistently to predetermined plans."[117] They embrace what adaptability brings to the acknowledged chaos and uncertainty that characterize the battlefield. Marines believe that adaptability is a key to overcoming the effects of friction and its components and that the ability to adapt enables Marines to be comfortable in this environment.[118]

"Flexibility is the key to air power" has been associated with the beliefs of the U.S. Air Force long before it became a separate service. It remains a tenet of air power today. The combat air forces organize themselves by Aerospace Expeditionary Forces. This adaptable concept allows the Air Force to provide tailor-made air power packages to fit the combatant commander's requirements. The Air Force's approach to transformation is through innovation and adaptation. Airmen "were born of change and it remains a part of their character."[119]

The Future Joint Force.

The future of the U.S. military is joint. The creation of the future joint force and the capabilities needed to achieve full spectrum dominance will require adaptation and flexibility. The transformation of the current force to a force more joint in nature will require common frames of reference for concepts, capabilities, requirements, modularization, and service unique core capabilities. The joint perspective envisions a future joint war fighting force able to use an "adaptive blend of attrition and maneuver warfare" in the ever-changing strategic and operational environments the American military will face.[120] The joint force will combine adaptive service capabilities to accomplish assigned missions (see Figure 1).

This synergistic approach will apply the right force at the right time in the right place. These adaptive capabilities, leaders, warriors, and systems are foundational to the future joint force. "Having the ability to recognize, adapt and tailor the inherent 'multi-use' capabilities of the future joint force across the range of military operations will permit exploitation of those resources to resolve a crisis situation."[121]

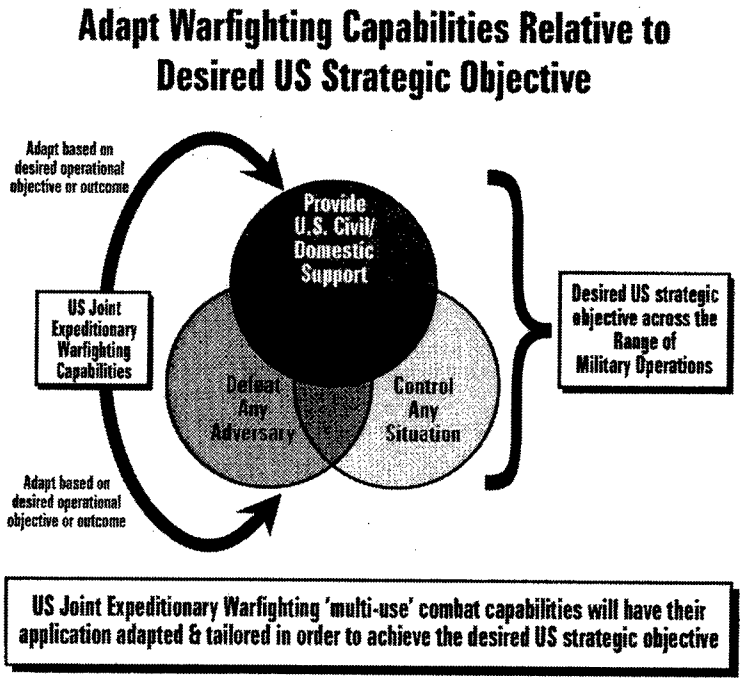


Figure 1. Joint Requirements Oversight Council Adaptability Context.[122]

An adaptive joint force will find it easier to integrate new technologies, overcome challenges from adapting adversaries, and succeed in the chaotic battlefield than today's military. Information technology will continue to grow and be a major enabler of the future joint force. "During the last two decades of the twentieth century, previously unimaginable tools for handling and using information have become widespread . . . these tools bring great potential advantages, but they also bring a need for both cultural

adaptation and perhaps for more insightful leadership practices."[123]

The applicability and effectiveness of the U.S. military in future roles will depend on unique combinations of organizations, capabilities, equipment, and people. Adaptability in multiple situations comes from combining the core competencies of the services into a joint team. These teams will depend on "well-educated, motivated and competent people who can adapt to the many demands of future joint missions."[124] The crucial element in the future force will always be the people. "The emerging capabilities required for future joint operations calls for a new culture that emphasizes adaptability in its personnel."[125] This joint force will require a cultural change that openly emphasizes an expeditionary and joint team mindset. Individual energy, innovation, imagination, and diversity must merge with traditional military standards of motivation, discipline, dedication, integrity, teamwork, and professionalism. In the future environments "U.S. joint forces must be capable of adapting their warfighting capabilities to crisis resolution situations without loss of operational effectiveness."[126]

Developing and educating people who embrace adaptability and who can effectively apply the joint forces across the entire range of military operations is crucial, but the joint team will also require global power projection capabilities. The starting point will be expeditionary forces that are modular in nature. Joint Commanders must be able to tailor forces to the immediate needs of the mission. These service elements will have a common basis from which to operate—joint concepts, known capabilities, and integrated architectures. They will be able to immediately integrate into the joint command structure, provide operational and tactical competences to the fight, and do so regardless of the make up of the rest of the joint force.[127]

Transformation to this future joint force will bring new challenges to all areas of the military. Dogmas, from individual service prejudices to joint "everybody must play" mentalities, from weapon systems acquisition to peacetime and wartime organizations, from strategy to tactics, should be examined and modified to maximize the benefits of transformation. The road to transformation and the future joint force is through adaptability. It is time to include adaptability in the principles of war where it will

positively influence American warfighting capability, future joint forces, and the military's cultures.

PROPOSED JOINT DEFINITION

The following proposed joint definition for adaptability is presented in the format of the current Joint Publication 1, Joint Warfare of the Armed Forces of the United States for principles of war.[128]

> Adaptability
>
> a. The purpose of adaptability is to actively endorse necessary altering or modifying combat operations, which aggressively find, force, and/or exploit opportunities, in reaction to localized conditions, at all levels on the battlefield.
>
> b. Adaptability requires that military personnel at all levels understand the strategic, operational, and tactical objectives supporting the commander's intent. Adaptability acknowledges the nature of war, characterized by chaos, volatility, violence, chance, friction, and fog, on achieving those goals. It encourages alteration and modification of planned actions in light of the current combat situations to accomplish the mission efficiently and effectively and support the commander's intent. It is applicable to all other principles of war except the Objective. Adaptability represents ingenuity, resourcefulness, innovation, and imagination of an individual and the group. It is both mental and physical, as well as the mental ability to find, identify, and exploit non-linear patterns in the strategic, operational, or tactical environment. It depends on the physical ability to act upon those patterns or force new ones more rapidly than the enemy and to do this with only the forces and capabilities on hand. Adaptability is a culture, a state of mind, and a characteristic of the American joint fighting force.

CONCLUSION

The principles of war are an accepted tool to assist warfighters. They attempt to model those aspects of war the U.S. military

feels important to consider when planning for war or executing a campaign. The principles consciously and unconsciously influence the U.S. military establishment across a wide spectrum outside of war. These include, but are by no means limited to, visioning the future military, weapons development and acquisition, and education of American military leadership.

The military has always respected adaptability as a hallmark of its warriors.

> There are numerous self-aware and adaptive leaders in our history—Lieutenant Colonel Hal Moore in the Ia Drang Valley; General of the Army Douglas MacArthur at Inchon; General Matthew Ridgeway taking command of Eighth Army in Korea; Major General William Sherman in the March to the Sea; and Lieutenant General Ulysses Grant's relentless assault on the Army of Northern Virginia.[129]

It has identified adaptability in axioms such as "no plan survives first contact with the enemy" and called it by other names such as "initiative" or "ingenuity." The ability to take the commander's intent and plans and then adapt them to the current situation and environment in order to accomplish the mission is one of the traits of U.S. military fighting men and women and is arguably a trademark of American culture.

The principles of war influence American military officers at every level of professional military education and throughout their careers. They represent the doctrinal foundations from which the American military builds unmatched global military capabilities in order to defend the nation, its people, and its interests. Incorporating adaptability in the principles will emphasize an attitude, mental ability, and physical characteristic that is already valued by all the military services.

Service and Joint writings (publications, manuals, memorandums, etc.) contain numerous references to the value of adaptability as a leadership and warrior attribute. They argue for the value of adaptability in the effective integration of joint, multinational, and interagency organizations. The goal then is a military, joint in nature, proficient in the application of power across the spectrum of conflict, educated in military history and doctrine,

well led with technologically advanced tools, and with the ability to adapt to the combatant commander's unique requirements. With the continuing complexity of the battlefield, the blurring of lines between strategic, operational, and tactical events and outcomes, and the increased range of military operations, the adoption of adaptability as a principle of war represents an opportunity to influence the continuation of U.S. military dominance.

Adding adaptability to the principles of war will also encourage a strategic culture that allows exploration and experimentation. When combined with critical thinking, a solid historical foundation, and technical competence, adaptability will provide the continuing basis for a military able to meet and defeat any threat the United States will confront over the foreseeable future. It will create an environment in which "out of the box" thinking flourishes. Adaptability is an imperative when matched with the uncertainty of the future, diverse and adaptive threats, joint warfare, and the expanding use of the military. The U.S. military sees the value of adaptability in history, uses it in current operations, seeks it out, and encourages it. It is needed for the future warfighting force. Raise adaptability to its proper place, codify it and make it a principle of war.

ENDNOTES - CHAPTER 7

1. U.S. Joint Chiefs of Staff, "Joint Vision 2020," Washington, DC, June 2000, p. 6.

2. *Ibid.*, p. 1.

3. *Ibid.*, p. 2.

4. *Ibid.*, p. 3.

5. U.S. Joint Chiefs of Staff, "Joint Warfare of the Armed Forces of the United States," *Joint Publication 1*, Washington, DC, November 14, 2000, p. viii.

6. Since the U.S. Air Force, Army, Navy, and Marines all accept not only the same nine Principles of War, but also the concept that there are principles as a concept, I will not question their acceptance. This does not mean that the current nine principles should not be examined and questioned, but just that it is beyond the scope of the issue in question. In fact, to maintain relevancy, the principles

should be the subject of continuous reassessment and, in particular, should be examined under the light of technology, its rapid changes, and the applicability of those new technologies on warfare. The nation's enemies have already shown they are willing to adapt to U.S. strengths and weaknesses and then employ technology in innovative and asymmetric ways against the United States.

7. John Algers, *The Quest for Victory: The History of the Principles of War*, Westport, CT, 1982. Algers' book provides a complete history of the principles of war. His exploration of their history starts with Sun Tzu and continues through the 1978 version of the U.S. Army Principles of War published in *FM 100-1*, September 29, 1978, and includes international versions of principles from various countries, friend, foe and neutral. He also includes a list of 68 different lists of principles covering over 2,500 years of warfare.

8. Bernard Brodie, *Strategy in the Missile Age*, Princeton, NJ, 1959, pp. 23-27.

9. U.S. Joint Chiefs of Staff, "Joint Warfare of the Armed Forces of the United States," p. B-1.

10. *Ibid.*, p. vi.

11. U.S. Department of the Air Force, "Air Force Basic Doctrine," *Air Force Doctrine Document 1*, Washington, DC, September 1997, p. 12.

12. U.S. Department of the Navy, "Naval Warfare," *Naval Doctrine Publication 1*, Washington, DC, March 28, 1994, p. 43.

13. U.S. Department of the Army, "Operations," U.S. Army *Field Manual 3-0*, Washington, DC, June 14, 2001, p. 4-2.

14. Russell W. Glenn, "No More Principles of War," *Parameters*, Vol. 28, No. 1, Spring 1998, pp. 51-52.

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16. Algers, *The Quest for Victory*, pp. xvi-xxiii.

17. Sun Tzu, *The Art of War*, Samuel B. Griffith, trans., Oxford, 1963, p. 63.

18. Algers, *The Quest for Victory*, p. 6-7.

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20. Algers, *The Quest for Victory*, p. 18-19.

21. *Ibid.*, pp. 21-23.

22. *Ibid.*, p. 28.

23. Bernard Brodie, *War and Politics*, New York, 1973, p. 446.

24. Carl von Clausewitz, *Principles of War*, Hans W. Gatzke, trans., Harrisburg, PA, 1942, p. 11.

25. U.S. Department of the Air Force, "Air Force Basic Doctrine," p. 12. As an example, USAF Basic Doctrine says the principles "serve as valuable guides to evaluate potential courses of action. These principles . . . provide a basis for judgment in employing military forces. They are guides for planning, learning, evaluation, and actions and not to be used as absolutes."

26. Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, eds. and trans., Princeton, 1976, p. 151.

27. *Ibid.*, p. 152.

28. Algers, *The Quest for Victory*, pp. 160-170. It is interesting to note that no other military in the world has the exact same set of Principles as the United States, not even its closest allies. Again, Algers' book documents over 100 lists of principles from ancient to modern countries.

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30. Edward S. Johnston, "A Science of War," *The Command General Staff School Quarterly*, Vol. 14, No. 53, June 1934, pp. 97-124, 140-141.

31. *Ibid.*

32. Sun Tzu, *The Art of War*, p. 84.

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Williamson Murray, MacGregor Knox, and Alvin Bernstein, eds., New York, 1994, pp. 80-81.

36. U.S. Joint Chiefs of Staff, "Joint Vision 2020," June 2000, pp. 20-30.

37. *Ibid.*, p. 20.

38. Williamson Murray and Mark Grimsley, "Introduction: On Strategy" in *The Making of Strategy*, p. 1.

39. *Ibid.*, p. 2.

40. U.S. Joint Chiefs of Staff, "Joint Warfare of the Armed Forces of the United States," p. I-8.

41. U.S. Department of the Air Force, "Air Force Basic Doctrine," pp. 1-2.

42. Clausewitz, *On War*, pp. 170-174.

43. Dudley W. Knox, "The Role of Doctrine in Naval Warfare," *Proceedings*, Vol. 41, No. 2, March-April 1915, in *Art of War Colloquium*, Wallace P. Franz and Harry P. Summers, Jr., eds., Carlisle, PA, 1983, pp. 49-50.

44. *Ibid.*, pp. 50-51.

45. David E. Jeremiah, quoted in U.S. Joint Chiefs of Staff, "Joint Warfare of the Armed Forces of the United States," p. III-1.

46. U.S. Joint Chiefs of Staff, "Joint Warfare of the Armed Forces of the United States," p. III-4.

47. U.S. Joint Staff, Directorate for Operational Plans and Joint Force Development, "An Evolving Joint Perspective: US Joint Warfare and Crisis Resolution In the 21st Century," Memorandum 022-03 for the Joint Requirements Oversight Council, January 28, 2003, p. 1.

48. As noted earlier, Air Marshal David Evans said that the principles should always be questioned, tested, and have their relevance verified. If the current principles can no longer provide adequate guidance to our warriors on the battlefield, then they have lost their relevancy. These Joint Evolving Fundamentals represent the foundations of the new American beliefs in what succeeds in war or what we would call the principles of war.

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Resolution In the 21st Century," p. 14.

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64. Larry H. Addington, *The Patterns of War Since The Eighteenth Century*, 2nd ed., Bloomington, IN, 1994, p. 134.

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66. *Ibid.*

67. *Ibid.*, p. 23.

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92. Donald Kagan, "Athenian Strategy in the Peloponnesian War," in *The Making of Strategy*, p. 55.

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95. Polybius, *The Rise of the Roman Empire*, trans Ian Scott-Kilvert, New York, 1979, pp. 236-275.

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98. Polybius, *The Rise of the Roman Empire*, pp. 318-338.

99. Leonard Fullenkamp, Stephen Bowman, and Jay Luvaas, eds., *Guide to the Vicksburg Campaign*, Lawrence, KS, 1998. This book offers a complete account of the Vicksburg Campaign including accounts from Grant's personal memoirs and other participants accounts in the many battles for the control of Vicksburg.

100. Ulysses S. Grant, *Personal Memoirs of U.S. Grant*, 2nd ed., Cambridge, MA, 2001, p. 231. Grant talks of the strategic nature of the success or failure of the Vicksburg Campaign by saying:

> At this time the North had become very much discouraged. Many strong Union men believed that the war must prove a failure. The elections of 1862 had gone against the party which was for the prosecution of the war to save the Union if it took the last man and the last dollar. Voluntary enlistments had ceased throughout the greater part of the north, and the draft had been resorted to to fill up our ranks. It was my judgment at the time that to make a backward movement as long as that from Vicksburg to Memphis, would be interpreted, by many of those yet full of hope for the preservation of the Union, as a defeat, and that the draft would be resisted, desertions ensue and the power to capture and punish deserters lost. There was nothing left to be done but to *go forward to a decisive victory*. (Emphasis in original.) This was in my mind from the moment I took command in person at Young's Point.

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107. Grant, *Personal Memoirs of U.S. Grant*, pp. 200-201.

108. *Ibid.*, p. 32.

109. Sun Tzu, *The Art of War*, p. 101.

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121. *Ibid.*, p. 10.

122. *Ibid.*

123. Edwin Dorn, *et al.*, "American Military Culture in the Twenty-First Century," Washington DC, February 2000, p. 69.

124. U.S. Joint Chiefs of Staff, "Joint Vision 2020," p. 7.

125. U.S. Joint Staff, Directorate for Operational Plans and Joint Force Development, "Evolving Joint Perspective: US Joint Warfare and Crisis Resolution in the 21st Century," p. 11.

126. *Ibid.*, pp. 5-6.

127. The JROC Memorandum 022-03 uses the term "plug and play."

128. U.S. Joint Chiefs of Staff, "Joint Warfare of the Armed Forces of the United States," pp. B1-B2.

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CHAPTER 8

DIRECT AND INDIRECT FIRES IN THE 21ST CENTURY

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> The dogmas of the quiet past are inadequate to the stormy present... As our case is new, so we must think anew, and act anew.
>
> Abraham Lincoln
> Message to Congress
> December 1, 1862.[1]

The recent termination of the Crusader program, coupled with Secretary of Defense Donald Rumsfeld's May 2002 testimony before Congress on his belief that the future lies with air-delivered precision munitions, has called into question the future of the Field Artillery as a branch and the delivery of ground-based fires as a function. The Crusader itself has come to represent the branch—heavy, slow, lethargic, and, although maybe technologically sophisticated, somehow out of touch with how the U.S. military currently fights and how it will fight in the future.

The purpose for this chapter is to demonstrate that the thinking described in the previous paragraph is wrong. A technologically sophisticated Crusader or a Crusader-like system, coupled with advanced munitions and target detection and location capabilities, is not only relevant, but represents a transformation in how the Army could fight and win America's future wars. A Crusader-like cannon, supported by 21st century targeting, digitized sensor to shooter links, global positioning system, and laser-enabled brilliant munitions could provide the United States a capability to fight in a fashion that military organizations heretofore have only dreamed of.

The real time digital fusion of sensor, shooter, and munitions provides the artillery of tomorrow direct fire effects with what used to be indirect fire weapons. The opportunity to engage an enemy from stand-off distances, without having to mass systems in order

to mass effects, and deliver killing blows through the use of either global-positioning or laser-designated brilliant munitions will allow, or possibly demand, the Army to transform the way it fights, organizes, and maneuvers.

The U.S. Army has reached the point where it should consider artillery another ground maneuver system equal, if not superior, to the armor and infantry as maneuver arms. It should give the artillery missions, battle space, and responsibilities commensurate with that newfound status. It must also consider the fundamental reorganization of its maneuver and fires branches and combine them into a new branch identified simply as "combat arms."

In this chapter, the author will describe the potential offered by marrying a weapon with Crusader-like capabilities to brilliant precision munitions and sophisticated targeting techniques. This coupling would provide direct fire-like effects over what have been traditionally indirect fire distances without the risks of direct fire engagements and without the necessity for massing systems that direct fire engagements require. By leveraging this combination of capabilities, the U.S. Army would fight a line-of-sight fight, sometimes virtually, out to distances that at one time were referred to as the "deep battle." Finally, this chapter will address some of the doctrinal and organizational changes required by such a new way of thinking and fighting.

THE WEAPON

Crusader has been a transformational Army system from the beginning of its initial concept development. The capabilities that it will bring to the battlefield transcend legacy, interim, and even Objective Force concepts of operations. It presents an opportunity to fight in new ways. Senator Carl Levin, quoting former Army Chief of Staff Gordon Sullivan, described Crusader's capability succinctly during Secretary Rumsfeld's testimony before Congress in May 2002:

> The Crusader was designed from the ground up to fight in the digital-network-centered battlefield, to exploit information dominance. Its advanced robotic operations and automated

> ammunition-handling systems allow the crew, enclosed in a protected cockpit, to exploit information instead of straining muscles. The advanced composite hull, liquid-cooled gun and mobility of the system elevate the effectiveness of our forces by 50 percent, with a corresponding reduction in resources. Crusader covers an area 77 percent greater than current systems and has a 3-1 advantage in rate of fire.[2]

Unfortunately, the Army initially designed Crusader to fight a Cold War threat on the Western European battlefield. It did not create Crusader with "projecting military force" in mind. Thus, its designers did not face the Objective Force constraint of fitting inside (and within the weight limitations of) a U.S. Air Force C-130 Hercules. Both the artillery branch and the Army as a whole were slow to react to the new operational environment and attempted to draw attention to what this weapon could do instead of acknowledging what it could not. A last minute weight reduction from 70 tons to approximately 40 tons was not enough to save the "white elephant" that then candidate George Bush had targeted for cancellation at his famous Citadel speech.

A comparison with the Army's 40-year-old M109 howitzer system—currently in the "A6" version or "Paladin"—is useful. This comparison is important, because without the Crusader, it is the Paladin that will serve as the Army's heavy artillery for the next 30 years.

Mobility.

The Paladin has lagged behind the maneuver forces in its ability to transit the battlefield since the arrival of the Abrams tank and the Bradley fighting vehicle. This has affected the employment of the system, as tactical and operational commanders have had to "echelon" or piecemeal their artillery instead of massing it to keep some fires in the fight. The Crusader would have used the same turbine engine that the Abrams tank will use as a result of its system enhancement program. This would have given the Crusader a 67 kilometer-per-hour road speed, with between 39 and 48 kilometers-per-hour cross-country speed of maneuver. This ability to maneuver on equal terms with the Abrams (as well as out-maneuvering any

other tank system in the world) represented a dramatic increase in capability and could have resulted in significantly new employment concepts discussed later in this chapter.[3]

Deployability.

The lack of strategic deployability has been a common and misguided complaint about the Crusader system. At its current weight of 38 to 42 tons, one C-17 can deliver two Crusader systems at strategic distances. This ability would give the gaining combatant commander much greater firepower than he could get with equivalent lift assets devoted to Paladin artillery systems.

Lethality and Responsiveness.

Advanced targeting and fire control systems in the Crusader would have made it roughly three times more accurate than the Paladin howitzer. Such accuracy would have occurred with the current suite of "dumb" munitions. Couple this accuracy with the precision available in newer munitions, and the accuracy of the Crusader would approach that of direct fire systems. Another factor that would have served to increase Crusader lethality was its liquid-cooled gun tube. That may sound like cannon-cocker gibberish, but the reality is that a Crusader could maintain a sustained rate of fire of up to ten rounds per minute, while a Paladin can only shoot three rounds in the same time. This would enable killing versus suppressive missions. The Crusader's robotic handling system enabled it to shoot its own "time on target" mission, as one weapon could deliver up to eight rounds that land at the same point within four seconds. The ramifications are significant.

The common criticism of the Crusader has been the operational mobility of the system. This criticism rests on the lift limitations of the almost 50-year-old C-130 Hercules, which cannot carry either a Paladin (which the Army will maintain for the next 30 years) or a Crusader. However, two Crusaders can fit into a C-17, the U.S. Air Force's strategic and operational workhorse, and with that one lift, the combatant commander will have the equivalent capability of two batteries of Paladin—which require six C-17s to deliver.[4]

Two additional capabilities give the Crusader a potential as yet untapped. First, because each system has onboard technical fire direction and self-locating capability, there no longer exists a requirement for massing systems or bringing several guns together in a battery. Crusader-like systems would enable Army artillery to mass effects without massing systems. Such a transformational capability would enable artillery to maneuver in the same manner that tanks and Bradleys maneuver, with even greater tactical dispersion.

This potential of operating in dispersed fashion was available with the Paladin, but for a variety of reasons the artillery branch chose not to leverage that capability. Artillery and maneuver commanders were not comfortable with artillery systems roaming the battlefield. Both preferred to keep them in boxes, or, as doctrine came to call them, "position areas for artillery." Although this improved the ability to leverage new capabilities, it did it in a suboptimal way. At times in National Training Center rotations, the scheme of maneuver focused more on how to keep the artillery "out of the way," than in taking advantage of the system's maneuver capability. Imagine a battalion's worth of Crusaders, operating in one- and two-gun sections, dispersed throughout the brigade battle space. The size of an avenue of approach is no longer relevant and the enemy intelligence preparation of the battlefield process just became exponentially more difficult.

At Battle Command Training Program Warfighter exercises, some forward looking maneuver commanders have used artillery better than ever before; nevertheless, they still confined their artillery systems into battery- or at best platoon-sized elements. Some would say that that is more a function of icon management and simulation limitations, but those are exercise controller issues that the Army can fix. Instead, commanders continually missed the opportunities to take advantage of the potential available.

Survivability.

Several features on the Crusader make it more survivable than its predecessor. Its cross-country mobility is one facet, but its ability to dash 750 meters in 90 seconds is an equally significant advantage.

Although this is hardly Abrams-equivalent mobility, it speaks to an ability to get in and out of trouble (the close fight) a little quicker than artillery has in the past. Improved exterior ballistic and non-ballistic protection coupled with a compartmentalized ammunition storage system, enhance passive defense for the crew dramatically. Such units would be less vulnerable to enemy artillery and air due to the dispersion of systems.

The Crusader's ability to link immediately into the theater common operating picture on arrival improves its defensive capability as well. This represents a level of situational awareness that is unprecedented in artillery. The improved situational understanding would have allowed the Crusader to operate in environments that were previously considered unsafe for artillery.

Active defensive measures include the ability to fire the mounted machine gun or grenade launcher from inside the vehicle. The added features of a self-contained nuclear, biological, and chemical defense capability, coupled with the fact that the crew never has to leave the cab to conduct resupply of any kind, would significantly improve the survivability of the three-man team (one-third the size of the Paladin crew) in battle.

Sensor to Shooter Linkages.

Today, the standard electronic chain which connects an observer to a weapon is through eight different intervention points, each with the capability to delay the call for fire.[5] With its state of the art communications systems, Crusader can link directly with sensors and eliminate the latency of today's indirect fires command and control systems. Dispersed enemy weapons that also attempt to mass effects instead of massing systems will define the future battlefield. DESERT STORM demonstrated the error of massing systems against the U.S. military. The contrary effectiveness of dispersing systems against American combat power appeared not by mistake in Kosovo. Thus, the ability to support simultaneous mutual engagements directed by separate shooters with long-range artillery fires will be more important in the future than the National Training Center's massed fire requirement of "you have to shoot fifty-four rounds to kill one tank."

The *Field Artillery Journal* noted the sensor to shooter capabilities of the Crusader in March 2002. "Crusader will be able to link directly with a Comanche helicopter, an unmanned aerial vehicle, an M1A2 SEP, or other target acquisition source and immediately bring effective fires. One sensor will be able to direct the fires of up to a battery of howitzers."[6]

These combinations of Crusader capabilities would, by themselves, change the way the U.S. Army thinks and describes maneuver warfare in the future. Couple this new delivery system with new, more capable munitions, and one would get transformational capabilities. Tie in those combined capabilities with a new organizational architecture, and the Army will arrive at the point where it must rethink current doctrine, as well as entirely recast how it plans to fight this thing called the "Objective Force."

The term indirect fire describes a delivery system in which the "shooter" cannot see the target. He must rely on an observer to see the target and direct his fires onto that target. The term "indirect" has also come to incorrectly imply a pejorative lack of accuracy. Field artillery projectiles of the past have relied on massed area fires to provide the effects necessary to "destroy, neutralize or suppress" the target. New munitions, however, are making that concept as irrelevant in the artillery today as the Norden site is to the F-16.

MUNITIONS

Artillery munitions that are capable of "one shot, one kill" are presently under development all over the world. Such munitions depend on either global positioning systems, laser designating of the target or, at the top end, brilliant munitions. Brilliant munitions are munitions able to loiter above a target area and, with great discrimination, independently decide which target is the "right" target, based on preprogrammed target signatures.

The U.S. Army has lived with the laser designated Copperhead round for 2 decades. Although this has generally been given a 90 percent chance of first round hit, the Copperhead remains a high maintenance weapon, in which firers have to consider its limited range (16 kilometers) as well as such artillery specific problems as "angle T," which is a confusing way of describing the relationship

between the shooter, the laser designator, and the target. When planned and executed correctly, this munition could have an enormous effect on the battlefield. Unfortunately, the consistently limited returns led maneuver commanders and shooters alike to default to the area attack of hardened targets.

Most advanced countries have a laser targeting capability similar to or greater than the Copperhead. The Russian-made "Krasnopol" possesses a slightly longer-range munition that has already proliferated around the world.[7] The shortcoming of such weapons, of course, is the necessity of the laser designator to expose himself. Nevertheless, the accuracy achieved generally serves to make the risk acceptable. Given well-conceived tactical positioning and the absence in most adversaries' kit bag of laser warning devices, such weapons remain an effective tool.

Other capabilities to destroy hardened point targets exist in numerous countries at present and are being developed with a post-Crusader sense of urgency in the United States. Raytheon, in recent collaboration with the Swedish company, Bofors, is developing the Excalibur family of munitions.[8] Excalibur is a jam resistant global positioning system-enabled munition, compatible with virtually all digitized artillery systems. This program has received considerable momentum over the last 6 months, as it seems to have captured the fascination of the current Secretary of Defense. Compared to the paltry 16-kilometer range of the Copperhead, Excalibur can attack targets at ranges of up to 40 kilometers with the Paladin howitzer and 50 kilometers with a larger gun tube similar to that of the Crusader.

Excalibur is actually the name for a common delivery projectile that has three variants—a dual-purpose improved conventional munition choice, an armor destroying choice, and a unitary explosive choice. The Army is currently only pursuing the unitary choice for budgetary reasons, but concept development for getting the projectile to the target is the main effort. Once developers have demonstrated proof of concept, expansion into the full suite of munitions would follow.[9]

The Rheinmetall Weapons and Munitions Company has taken this capability one step further. It has developed a "Sensor Fused Munition for Artillery-155" (SMART155) which combines the sub-

20 meter accuracy of the Excalibur with a sensored fuse to enable discriminating attack in the target area.[10] This brilliant capability means the munition can selectively engage the proper enemy system in the target area with no additional action by the firer or observer. The ramifications of this capability are significant. Armies can now depend on collateral damage reduction at dramatic levels and engage heretofore unattackable targets. Enemy tactics such as blending into populated areas to deter attacks on their weapons systems will no longer represent a viable course of action. This extremely accurate munition could select between a school bus, for example, and the multiple rocket launcher parked next to it. At present, the British Army has a major Indirect Fire Precision Attack program, in which its developers are leveraging the Raytheon Excalibur capability with a terminally guided warhead. This would couple global positioning accuracy with laser designation.[11]

The ideal munition for the future fight would be munitions similar to Excalibur (call it Excalibur+) that had the three variants—dual purpose improved conventional, armor destroying and unitary munitions—that were sensor fused, brilliant, and laser capable. This would provide all weather, all situation munitions that would have devastating and transformational effects. The two most significant benefits would be a precipitous decrease in the volume of ammunition required for the same effect and the ability to attack targets accurately that were previously unavailable. Couple this munition with a Crusader-like cannon, and the Army would approach what one might term a revolution in military affairs. Complement this with new acquisition capabilities, and the new systems would represent a true transformation in the "American Way of War" that would rival the development of the rifle, the tank, the aircraft carrier, and the helicopter.

The author's experience in participating in numerous Training and Doctrine Command's "Seminar War Games" is the basis for the three choices for munitions variant. In seven separate exercises during the last year and with numerous battlefield vignettes and simulations, various planners and senior ranking operators attempted to defeat a projected enemy with the "Objective Force." What came to the fore, time and again, was the fact that the most dangerous target set on the battlefield for the Future Combat

System-equipped Objective Force was that of small dismounted regular infantry forces and similarly sized special operations forces or paramilitaries.

Assume a small, well-trained light infantry force is operating in a hit-and-run fashion, covering itself in stealth, much like the U.S. military's special operators in Afghanistan. A precision delivered dual purpose improved conventional munition is the perfect system to attack such a critical target. The charter members of the "axis of evil" (Iran, Iraq, and North Korea) each maintain inventories of over 3,000 tanks and other armored vehicles. Brilliant or terminally guided tank killing munitions continue to be the weapons of choice for that target set. Lastly, as enemies seek sanctuary in cities and bunkers, the Army needs to have the option of a unitary munition that can precisely attack these target sets with limited collateral damage.

TARGETING SYSTEMS

The Unmanned Aerial Vehicle system has been the major targeting development over the last two years. Although the U.S. Navy has more than 23,000 hours of flight time on its Pioneer unmanned aerial vehicles, it has really been the recent experiences in Afghanistan and Yemen that have brought this capability to the front page.[12] The U.S. military has developed unmanned aerial vehicles that can loiter over targets for days at a time, provide real time accurate target location, and immediately assess the effects of fires on targets to assist in reattack decisions. There are over 22 companies in the United States working on the various unmanned aerial vehicles, and the military has benefited from the competition. Choices are available in how long such vehicles can stay in the air, how far they can fly, how high they can fly, how much payload they can carry, the types of acquisition devices on board, and whether the unmanned aerial vehicle needs to be capable of attacking targets itself.[13] Fielding plans in the Objective Force are not complete, but discussions include making available unmanned aerial vehicles at levels down to individual Future Combat System platforms and certainly at the platoon level for local security.

The effect of this observation capability on a Crusader unit is not only that it would make the system more lethal, but it would also

make it more survivable in a high threat environment. Objective Force plans also include a plethora of unmanned ground systems capable of passing targeting data directly to the shooter, while simultaneously populating the common operating picture. Some of these will be small enough to throw out by the handful, while others are larger and sturdier. The reason for including the information about unmanned aerial and ground systems is to acknowledge that the Army has already committed to this capability. Leveraging it in new ways by tying it directly to a shooter represents the way of the future.

Another capability that the Army's success in Afghanistan has highlighted is that of a well-positioned light infantryman or special operator using a laser designator to assist in precisely attacking certain targets. This capability is not new and was used extensively in DESERT STORM with little fanfare. This on-the-ground capability can augment the collection and targeting by unmanned systems and give the ability for more discreet target discrimination.

Finally, the U.S. military has been developing Tactical Exploitation of National Capabilities since before it came up with the acronym TENCAP. It was not until DESERT STORM however, that the Army got serious about the "tactical" part. The Objective Force will be dependent on this tactical exploitation, and the leveraging of targetable data, if not just the improved situational awareness, will make artillery systems even more lethal. Even if the national capabilities are not at sufficient resolution to produce targetable data, commanders can certainly use the information to cross-cue sensors that do provide sufficient resolution for target attack.

NEW WAY OF FIGHTING

These advancements in weapons system, munitions, and acquisitions systems will do no more good than French tanks along the Meuse River in May 1940 unless there is a corresponding systematic change in how the Army fights. This author suggests looking at this notion of change under the rubric of the Doctrine, Organization, Training, Leaders, Materiel, and Soldiers to examine the ramifications.

Doctrine.

It is time to give the artillery commander a maneuver-like mission and his own battle space (zone or sector as appropriate). He could deploy his sensors and then maneuver his weapons in order to have the greatest effect on the enemy. What this suggests is doing away with the close battle, when possible, or the "short knife fight," as the Army's Chief of Staff describes it. With the situational awareness provided by the multitude of sensors in the future force, and with the acquisition systems described earlier, the U.S. Army has the capability to attack targets accurately at much greater ranges, truly exhibiting standoff advantage. Army artillery-based units could have direct fire effects (one round, one kill) at traditional indirect-fire distances. This amounts to "virtual" line of sight combat, combining the accuracy advantage of direct fires systems with the standoff advantage of indirect fire systems. In fact, with Excalibur armor destruction variant, the Army can get to "one round, multiple kills." The Brilliant Anti-tank Munitions Program sponsored by the artillery branch demonstrated this technology which is currently on hold due to budgetary constraints. The traditional sanctuary of reverse slopes, intervisibility lines, and urban areas would no longer be available to the enemy. The artillery maneuver commander would have the ability to mass systems on a given target or establish digital sensor to shooter links with individual sensors and weapon systems in order to ensure responsiveness while not sacrificing any lethality. By giving the artillery commander his own zone or sector, the superior commander gets away from the problems of conflicting battle space management that tries to deconflict terrain (and therefore suboptimizes capabilities) instead of integrating and maximizing effects.

Organization.

The necessary organizational changes could follow the models used in the maneuver community for years. Artillery units need to be imbedded as brigade-sized elements in traditional divisions and be capable of cross attachment, as maneuver forces have operated since the advent of the tank. There will be missions and enemy

situations where the division commander would want to employ a task organized unit of cannons and tanks, or cannons and Bradleys. There will be other times when he will want to employ each of them in a "pure" form. Units need to be trained to easily attach and detach. This requires modular organizations that leave their parent units with the necessary augmentation to accomplish missions independently of parent unit support. The common engine that the Crusader and the M1A2 Abrams would have shared would have been a step in the direction of making the logistic support much easier.

Training.

The mandate to train as a team is self-evident. This includes likely cross-attachment tactics, techniques, and procedures as well as training regularly with the full variety of sensors, shooters, and munitions. It also means leveraging combat system imbedded training built into the Crusader and should be basic to all Objective Force Future Combat Systems. This would enable the crew to train in a realistic environment at greatly reduced costs, using on board training simulators and scenario drivers. In the perfect world, the simulation would be invisible to the crew as they run through their gamut of operational tasks.

Leaders.

Leaders in the future force may not have the luxury of being armor, artillery or infantry, or any other branch for that matter. It is time to train combat arms leaders. Whether the leader's unit has a weapon system that has direct fire effects out to 8 kilometers or 40 kilometers, his tasks will not be that different. The artillery branch has trained junior leaders for years to operate everything from a 105-millimeter howitzer, to a 155-millimeter howitzer, to a multiple launch rocket system, and even to Lance or Pershing missiles. After their basic course of instruction, artillery officers usually receive another 2-3 weeks of weapon specific training. Learning this wide range of delivery systems and specific tactics, techniques, and procedures greatly exceeds that which one would expect in the

maneuver force of the future.

The rank structure may have to be reexamined, however. More study on this is necessary, and it is not included in the purview of this chapter. But the question must be answered—is lieutenant the right rank for a platoon leader? How big should a platoon be? If a platoon is capable of providing battery-like effects, should a captain command it? If lieutenant is not the right rank, what are the developmental jobs to prepare a junior officer for future leadership positions?

Soldiers.

Some of the same questions need to be asked about soldiers as were asked about leaders. Are soldier tasks at the weapon level specific enough to demand separate military operational specialties? The answers to these questions are not clear, but the Army will obviously need a much more capable soldier, one who is digitally competent, while simultaneously possessing a "head out of the cupola" like situational awareness. There will be no room for nonwarriors in these units as there will be reduced requirements for headquarters button pushers, coordinators, and other troops.

OPERATIONAL LEVEL IMPACT

This would give combatant commanders a new way to fight and solve some of the traditional problems they face when phasing the entry of forces in theater in the event of a crisis. Today, the commander must choose whether he wants to bring in force protection assets such as long range fires to deny the enemy the use of his anti-access system, or get a "combat maneuver" force on the ground. With this new capability, he can have both. The lift cost of getting two Crusader-like systems on the ground is the same as getting two Paladin batteries on the ground. In return however, the combatant commander would get a weapon system that ties directly into his theater sensor grid, receives common operating picture input, has operational ranges, and is capable of denying the enemy the ability to influence the arrival of follow on forces. Additionally, this new "maneuver force" would be able to dominate greater battle

space while not exposing itself to the risk normally associated with expanded terrain responsibility.

JOINT VISION 2020

"Joint Visions 2010" and "2020" both describe the full spectrum dominance achieved through dominant maneuver, precision engagement, focused logistics, and full dimensional protection.[14] This new way of fighting is directly in line with this new joint vision. Dominant maneuver does not mandate a close fight. It describes a situation where the joint force commander combines precise maneuver and fires to bring his forces to a position of advantage in relation to the enemy. This concept of using sensors, shooters, and munitions in a real time, integrated way leads the Army right down the path to the Objective Force goal of seeing first, understanding first, acting first, and finishing decisively.

OTHER CHOICES

Before investing in this capability, a fair question to ask is "do we already have that capability?" Is another service or branch already farther down the road to possessing the same effect? The three most likely competing ideas of how to dominate operational and tactical battle space are the use of rockets, the use of air delivered precision munitions, and the delivery of those same munitions from unmanned aerial vehicles.

Rockets.

Rockets have massing capabilities that far outweigh those of cannons, but that is not the fight being described here. There are some target sets that are appropriately attacked by rockets, specifically those cases when the commander needs long-range massed area fires against targets for which he does not have accurate (precise may be a better word) target locations. But the maneuver fight in a dispersed environment does not lend itself to massed fires. There are currently no munitions programs being developed in the U.S. military that would provide the precision described above. The

other disadvantage of the rocket system is its lack of tactical agility. A cannon system can change munitions in a matter of seconds. The variety of rounds available, plus the minimal time it takes to change from one munition to another is more consistent with a close fight that is normally being timed in seconds and minutes.[15] Even if a variety of munitions were available in rocket launchers today, it still takes approximately 20 minutes to download one type of ammunition and load another and the inherent inefficiencies in making "variety packs" of rocket pods has heretofore precluded their development. Technology may speed this up, but the time necessary will still be unsatisfactory to meet close fight requirements.

Air Power.

The use of air power has certainly become a given in the new "American Way of War." The effectiveness of the world's greatest air force gives the United States asymmetrical advantages that create strategic, operational, and tactical opportunities that this nation leverages to great success. Unfortunately, if doctrine demands that ground forces fight in all weather, 24 hours a day, then doctrine must ensure that they have fires in those same conditions.

Lessons learned from the air war over Kosovo reinforce these thoughts. Benjamin Lambeth, in a Rand study for the Air Force, notes that "While the Serb pillaging of Kosovo was unfolding on the ground, NATO air attacks continued to be hampered by bad weather, enemy dispersal tactics, and air defenses that were proving to be far more robust than expected."[16] Naturally, weather will remain beyond the military's ability to control, but air defenses become a nonproblem in the artillery-centric maneuver fight described here. General Wesley Clark, the overall combatant commander for the War in Kosovo, lamented on several nights of bad weather when "most of the air strikes were cancelled." It was not always the delivery of munitions that was the problem, but the avoidance of enemy air defenses. "The weather in southern Serbia and over Kosovo prevented manned aircraft from flying with enough visibility to be safe if engaged by enemy missiles or to deliver weapons accurately."[17] Again, the capability of the U.S. Air Force is unarguable, but in Kosovo, even with ultra-modern aircraft flying in conditions of virtual air

supremacy, the Air Force was still not able to provide the necessary effects on the ground in a continuous manner.

So, was this weather a European phenomenon? Nothing like that could ever happen in say, Southwest Asia, right? Lambeth offers the analogy of "much like DESERT STORM, adverse weather at the five-week point had forced the cancellation or failure of more than half of all scheduled bombing sorties on twenty of the first thirty-five days of air attacks." [18]

Unmanned Aerial Vehicles.

Operations in Afghanistan and Yemen have recently demonstrated the dramatic capability of an armed unmanned aerial vehicle for all the world to see. The well-publicized results of the attack of the sport utility vehicle on the road in Yemen demonstrated a capability that is transformational in and of itself. Nevertheless, this capability does not serve as a substitute for the force described in this chapter for two reasons. First, unmanned aerial vehicles experience many of the same weather related problems that manned aerial vehicles confront. Secondly, payload restrictions limit the amount of munitions on board. The largest currently fielded unmanned aerial vehicle has a maximum payload of 1,980 pounds. Generally that means it must rearm after firing two missiles such as the ones used in Yemen. There is no doubt that this represents another tremendous asymmetrical capability possessed by the United States. Armed unmanned aerial vehicles need to be fielded and continually developed to take advantage of technological breakthroughs. They are not, however, adequate to serve as the single deliverer of fires for the close fight.

CONCLUSION

The potential exists for a new way of fighting with fires that takes advantage of the capabilities that are currently or soon to be available. First, the delivery system has to be Crusader-like. This means it must have comparable mobility to the currently fielded tank and infantry-fighting vehicle. It must have on board technical fire direction computing and self-locating ability to negate the

requirement to mass as a battery or platoon. It must be capable of firing single system time-on-target missions as well as maintain a ten-round-per-minute sustained rate of fire. It must be survivable in terms of quickness and both active and passive protection systems. Finally, and maybe most importantly, it must be capable of digital sensor to shooter linkages directly to the individual weapon.

Second, the munitions used must be as described as Excalibur+. This means they would be global positioning system enabled, sensor fused, brilliant munitions with at least a 40-kilometer range. They must be capable of terminal guidance using a laser when appropriate. And such munitions must provide dual-purpose improved conventional munitions, armor destroying munitions, and a unitary munition.

Third, the acquisition system must be accurate, survivable, and persistent/loitering. It must have the ability to respond to terminal guidance provided by a laser and capable of digital connection directly to the weapon system, and potentially, to the round in flight. The current suite of unmanned aerial vehicles provides this capability, as do Special Operating Forces using digital radios and laser designators. Both of these capabilities were demonstrated in operational environments over the last 2 years.

The final requirement to implement this system would be a willingness to change the way the Army trains its leaders and soldiers, organizes its units, and looks at ground maneuver problems. Future combat will distinguish itself by paralleling the technological advancements that will be present in society. Some of these advancements enable the military to keep doing the same things it has been doing in the present, only better, faster, and more accurately. When these multitudes of single system improvements are taken individually, they lead to an evolution in the way the U.S. Army fights. It does, in fact, get better, faster, and more accurate. The purpose of this essay is to suggest that by taking each of the individual improvements and using them together to create a systemic and doctrinal improvement, there is a chance for a true revolution in how this nation's military conducts the business of war. The opportunity to couple new weapons, munitions, acquisition systems, and maybe most importantly, the electronic links among them all, presents the Army with the potential to fight in a truly transformational way.

Having direct fire effects from indirect fire distances provides the U.S. military the opportunity to organize its forces to maximum advantage. Now is the time to drop the distinction between armor, infantry, and artillery and simply call these forces "combat arms." Now is the time to drop the distinction between the "line of sight" fight and the "virtual line of sight" fight. There should be no such thing as "indirect fires" any more; all fires are direct. Such dramatic changes demand new ways of conducting warfare. The Army must seize these new ways, organize itself to take advantage, and thus be in position to maintain its status as the world's premier ground force.

ENDNOTES - CHAPTER 8

1. Eliot Cohen, *Supreme Command*, New York, 2002, p. 213.

2. Senator Carl Levin, "Testimony by Secretary of Defense Donald H. Rumsfeld on Crusader Artillery System before the Senate Armed Services Committee, transcript," May 16, 2002; available from *http://www.defenselink.mil/speeches/2002/s20020516-secdef2.html*; Internet, accessed December 16, 2002.

3. Charles C. Emerson, Jr., "Crusader: Hammer for Today, Forge for the Future," *Field Artillery*, March-April 2002, p. 43.

4. The discussion is limited to lift requirements for the weapon systems. There would be additional requirements for the support structure of the batteries, but the comparison per weapon system is the focus as that weight is what led specifically to the cancellation of the Crusader program.

5. There are many different ways that this chain is calculated. One way for a call for fire to be processed is for it to go from the observer to a Company Fire Support Officer to a Task Force Fire Support Officer to a Brigade Fire Support Officer to a Battalion Fire Direction Center to a Battery Fire Direction Center to a Platoon Fire Direction Center to the actual weapon that will fire the mission. Each of these intervention points can stop the request and analyze it, thus adding more time to the process. The suggestion articulated here is that there are some circumstances where a direct link from the observer to the delivery system may be more appropriate. With the Crusader and the described acquisition and digital links, we could do this . . . at the speed of light!

6. Emerson, "Crusader: Hammer for Today, Forge for the Future," p. 45.

7. Walter L. Williams and Michael D. Holthus, "Krasnopol: A Laser-Guided Projectile," *Field Artillery*, September-October 2002, p. 30.

8. David C. Isby, "Excalibur Becomes a US-Swedish Programme," *Jane's Missiles and Rockets*, July 1, 2002, p. 1. Available from Jane's Information Group, accessed February 7, 2003.

9. Richard Hansen and John Halvey, "Excalibur, XM982 Program," briefing slides, 6th International Cannon Artillery Firepower Symposium, June 21, 2000.

10. Christopher F. Foss, "UK Company Develops 155mm Guided Artillery Ammunition," *Jane's Defense Weekly*, November 20, 2002, p. 1. Available from Jane's Information Group, accessed February 7, 2003.

11. *Ibid.*

12. Program Executive Office, Strike Weapons and Unmanned Aviation Public Affairs Department, Press Release Number: EPEOW200204081, "Pioneer UAV Dedicated onto U.S.S. Missouri," April 8, 1992; available from *http://uav.navair.navy.mil/pioneer_home.htm*; Internet, accessed February 7, 2003.

13. "Unmanned Aerial Vehicle Endurance, Payload, Weight and Altitude Capability," May 27, 1999; available from *http://uav.wff.nasa.gov/capabilities.html*; Internet, accessed February 7, 2003.

14. Joint Chiefs of Staff, "Joint Vision 2020," Washington, DC, June 2000, p. 3.

15. This phrase has been used at the Field Artillery School over the last couple of years in various forums. It was originally conceived by retired Colonel Sam Coffman during a discussion of the subject, "why cannons?"

16. Benjamin S. Lambeth, *NATO's Air War for Kosovo*, Santa Monica, CA, 2001, p. 27.

17. Wesley K. Clark, *Waging Modern War,*, Cambridge, MA, 2001, p. 212.

18. Lambeth, *NATO's Air War for Kosovo*, p. 37.

CHAPTER 9

MARITIME PREPOSITIONING: YESTERDAY, TODAY, AND TOMORROW

Colonel Carl D. Matter

The U.S. Marine Corps Maritime Prepositioning Force represents a transformational force multiplier that provides the Marine Corps and the United States with the crisis response/power projection capability demanded by the current National Security Strategy. Maritime prepositioning represents a concept developed by the Marine Corps that has supported the National Defense Strategy and the concepts of deterring forward, strategic power projection, and forward presence since its development in the early 1980s. Maritime prepositioning has evolved over the years into the current Maritime Prepositioning Force capability. It will continue its evolutionary development in support of the National Military Strategy as directed by future Quadrennial Defense Reports and the Secretary of Defense. The future Maritime Prepostioning Force concept embraces the Department of Defense (DoD) directed military transformation described in the 2001 Quadrennial Defense Report and will support the envisioned transformed Navy-Marine Corps Team of the future.

On September 11, 2001, terrorists launched a vicious surprise attack against the United States. Thousands of Americans and others died on U.S. soil, not combatants but, rather, innocent victims of a war that took America by surprise.[1] Shortly thereafter, the Secretary of Defense, Donald Rumsfeld, published the Quadrennial Defense Report on September 30, 2001. That report, published only days after the September 11 attacks, was the product of a lengthy process of examining subtle and dramatic changes in the world order. It represents a recognition of emerging asymmetric threats from rogue nations, regional instabilities, religious fanaticism, and terrorists as the major threat confronting the nation. In the Quadrennial Defense Report the Bush Administration and senior defense leaders correctly identified new and different emerging threats to national security and therefore indicated an intent to establish a new strategy for

America's defense. That strategy charts a strategic roadmap for addressing uncertainty and surprise; it recognizes that America's defense and safety at home depends upon its ability to counter threats abroad.

The Quadrennial Defense Report acknowledges that the United States has important geopolitical interests around the world, interests challenged by anti-access and area denial threats. It recognizes the requirement for immediately employable forces, forward deployed as well as those projected from outside the theater of operations. The Quadrennial Defense Report specifically argues "transforming the U.S. global military posture begins with the development of new ways to deter conflict. Deterrence in the future will continue to depend heavily upon the capabilities resident in forward stationed and forward deployed forces, along with the rapidly employable capabilities the U.S. military possesses throughout the globe."[2]

The National Security Strategy provides broad-based guidance concerning the desired capabilities for U.S. forces and the need to project power in response to crisis, or preempt threatening or potentially hostile action against either the United States or its interests both at home and abroad. The National Security Strategy describes "the presence of American forces overseas as one of the most profound symbols of U.S. commitments to allies and friends."[3] The strategy also recognizes the unparalleled strength of U.S. armed forces and the vital peacekeeping role of forward presence. In addition, it calls for transformed maneuver and expeditionary forces that "round-out" America's ability to defend the homeland, conduct information operations, ensure U.S. access to distant theaters, and protect critical U.S. infrastructure and assets in outer space.[4]

The strategy set forth in the National Security Strategy clearly recognizes that "the United States will not use force in all cases to preempt emerging threats, nor should nations use preemption as a pretext for aggression."[5] However, the strategy recognizes that "in an age where the enemies of civilization openly and actively seek the world's most destructive technologies, the United States cannot remain idle while dangers gather."[6] As a consequence of this recognition, "the United States will continue to transform its military forces to ensure the ability to conduct rapid and precise operations to achieve decisive results."[7]

America's strategy is broad enough to facilitate a transformational approach to crisis response and power projection. However, it specifically requires overseas and forward presence of U.S. forces, as well as maneuver and expeditionary forces capable of rapidly responding to crisis and countering threats. The strategy allows the U.S. military the opportunity to determine how it will transform, configure, and employ its resources to provide the required crisis response capability and project power.

THE MARITIME PREPOSTIONING FORCE (MPF) PROGRAM

The purpose of the Maritime Prepositioning Force program is to enable the rapid deployment and establishment of a Marine Air-Ground Task Force (MAGTF) in support of the National Security Strategy. A key feature of the Maritime Prepositioning Force is its inherent ability to respond to a variety of contingencies, ranging from humanitarian assistance to major theater war. Maritime Prepositioning Force command relationships rest on joint doctrine and focus on incorporating maritime prepositioning into naval, joint, and multinational operations with a flexible command and control structure.[8]

History.

In 1977, Presidential Review Directive 18, 1977, signed by President Jimmie Carter, created the Rapid Deployment Joint Task Force to fill a gap that existed in forward presence in the Persian Gulf. In 1980 the Marine Corps loaded equipment and supplies aboard Military Sealift Command chartered vessels as part of an interim prepositioning and forward presence capability, known as the Near Term Prepositioning Force. That effort consisted of seven ships: three (USNS *Mercury, Jupiter,* and *Meteor*) loaded with rolling stock to support the 7th Marine Amphibious Brigade; two (SS *American Champion* and *American Courier*) transported ammunition, medical supplies, and material to support Army and Air Force units attached to the Rapid Deployment Joint Task Force; two (USNS *Sealift Pacific* and *MV Patriot*) carried fuel and potable water. The cargo ships loaded up in Wilmington, North Carolina, in July 1980

and the Near Term Prepositioning Force became fully operational in 1981. The Near Term Prepositioning Force conducted its equipment and ship maintenance in Naha, Okinawa and Subic Bay Naval Base, Republic of the Philippines.[9]

Between 1981 and 1986, Military Sealift Command chartered and converted newly-built commercial vessels with Maersk Line, Waterman Steamship Corporation, and American Overseas Marine Corporation to meet Marine Corps operational requirements. By 1983, the Marine Corps Logistics Base at Albany, Georgia, had attained sufficient equipment and supplies for three Marine Amphibious Brigades with sufficient sustainment for 30 days, later loaded aboard the leased ships for long-term storage. These ships possess the capability to conduct roll-on/roll-off (RO/RO) and lift-on/lift-off (LO/LO) operations, provide self-sufficient offload operations from either in-stream or a port facility, transfer bulk liquids while off-shore, and maintain temperature and humidity controlled spaces to protect equipment.[10]

The Maritime Prepositioning Force formed into three squadrons, strategically placed at locations across the globe. Maritime Prepositioning Squadron-1, established in 1984 on the east coast, supported 4th Marine Amphibious Brigade, and then later relocated to the Mediterranean to establish a forward presence in the Europe theater after Operations DESERT SHIELD/DESERT STORM. Maritime Prepositioning Squadron-2 replaced the Near Term Prepositioning ships in Diego Garcia in 1985 and continued to support 7th Marine Amphibious Brigade based at Camp Pendleton, California. Maritime Prepositioning Squadron-3 formed up in Guam and Tinian (later replaced by Saipan) in 1986 and supported 1st Marine Amphibious Brigade deployments from Hawaii. The first two squadrons loaded up at Wilmington (1984-85). The third squadron loaded at Panama City, Florida (1986). The ammunition for all three squadrons up-loaded at the Military Ocean Terminal, Sunny Point, North Carolina (known as MOTSU).[11]

Prior to August 1990, Maritime Prepositioning Force operations had only been tested in exercises. Operations DESERT SHIELD/ DESERT STORM validated the Maritime Prepositioning Force concept, where the Maritime Prepositioning Force provided the first truly capable force in northern Saudi Arabia. In fact, the

first battalion of the 7th Marine Expeditionary Brigade occupied its defensive positions within four days of arrival. The first nine Maritime Prepositioning Force ships, off-loaded by the first week of September 1990, provided the equipment and thirty days of sustainment for two-thirds of the Marine Corps forces ashore, as well as supporting some U.S. Army units.[12] During the ramp up to the Gulf War, the Marine Corps off-loaded the equipment and supplies from all three Maritime Prepositioning Force squadrons to provide the bulk of the combat power required during the first 30 days of force closure and crisis response.

In June 1991 the Marine Corps employed Maritime Prepositioning assets as part of Operation FIERY VIGIL to assist the Republic of the Philippines, when Mount Pinatubo erupted, burying whole cities and forcing the evacuation of Clark Air Base. Also, from December 1992 through May 1993, Maritime Prepositioning Force ships supported Marines conducting peacekeeping and humanitarian assistance in Somalia during Operation RESTORE HOPE.[13]

Maritime Prepositioning Force Today.

Maritime Prepositioning Force (Enhanced) is today's Maritime Prepositioning Force. The original Maritime Prepositioning Force consisted of 13 ships in three forward-deployed squadrons. Those ships are privately owned, operated by three companies (Maritime Sealift Command chartered) and leased to the DoD. They possess the ability to conduct roll-on/roll-off (RO/RO) and lift-on/lift-off (LO/LO) operations, provide self-sufficient offload operations from either in-stream or a port facility, transfer bulk liquids while off-shore, and maintain temperature and humidity controlled spaces to protect equipment.[14] They are also capable of container operations. Each squadron supports a force of approximately 17,000 Marines. The Maritime Prepositioning Force (Enhanced) program provides an additional ship to each Maritime Prepositioning Squadron by embarking Naval Mobile Construction Battalion assets, a Navy Fleet Hospital, and an Expeditionary Airfield. Two of the three Maritime Prepositioning Squadrons enhancement packages are already on station,[15] and the projected delivery date for the third ship, USNS *Wheat*, is March 03.[16]

MARITIME PREPOSTIONING FORCE HOMEPORT/ MAINTENANCE

The Marine Corps believes that it requires a dedicated facility from which to homeport, maintain, and sustain its vital Maritime Prepositioning Force assets. That facility is Blount Island Command located in Jacksonville, Florida. Blount Island is, in fact, a man-made island located near the mouth of the St. Johns River. It has proven to be ideally suited for Maritime Prepositioning offloads, maintenance cycle operations, backloads, and strategic throughput ("throughput" pertains to Blount Island's capability of receiving strategic-level equipment and materiel from numerous, disparate origins, organizing it, and forwarding it to the appropriate requesting agencies in a timely manner).[17]

At present, Blount Island is a privately owned island leased to the Marine Corps for approximately $11.4M per year. Its current operating lease expires in 2004. Upon lease expiration, the Marine Corps plans to buy it. The Marine Corps shares the island with a half-dozen active commercial tenants to include Jacksonville Port Authority, Jacksonville Electric Authority, B. F. Goodrich, and GATE Maritime Properties.[18]

Upon initiating the Maritime Prepositioning Force program, the Marine Corps identified a requirement for a Maritime Prepositioning Force support facility. In 1985 the Marine Corps considered some 60 locations deemed as potential Maritime Prepositioning Force homeporting/maintenance locations. However, all but five were unsuitable due to limitations such as water depth, overhead clearance, acreage, available facilities (cost to build or upgrade), and ammunition safety requirements. The Marine Corps then surveyed the five remaining ports (Blount Island; Davisville, Rhode Island; Panama City; Port Everglades, Florida; and Wilmington) and eliminated all but Blount Island as viable Maritime Prepositioning Force support facilities due to the reasons cited above or factors such as annual weather patterns.[19]

Soon after occupying Blount Island, the Marine Corps considered purchasing the island and therefore permanently establishing it as the dedicated Maritime Prepositioning Force homeport/maintenance

and sustainment facility. A significant aspect of the process of permanently establishing it as a dedicated Maritime Prepositioning Force facility involved verifying it as the best location. To confirm Blount Island, the DoD and the Marine Corps began exploring alternative locations/facilities to satisfy facility requirements. Since occupying Blount Island, DoD has conducted four major studies of potential Maritime Prepositioning Force maintenance sites/facilities. All of these studies identify Blount Island as the best site.[20] In addition, in 1999, the Marine Corps conducted a Naval Weapons Station Charleston, South Carolina, site survey to update its own previously conducted in-house assessment of Naval Weapons Station Charleston as a viable and cost efficient alternative and revalidate a 1998 Joint Staff directed cost and operational effectiveness analysis. The Joint Staff analysis examined collocating the Army's afloat prepositioning and Marine Corps' prepositioning maintenance sites at Charleston or Blount Island. The Joint Staff study concluded that the Marine Corps should keep Blount Island. The 1999 Marine Corps site survey supported that conclusion.[21]

In the late 1990s, the unified combatant commanders indicated support for retaining and purchasing Blount Island through Integrated Priority List (IPL) language that highlighted the Maritime Prepositioning Force and purchase of Blount Island as a priority. In Central Command's Integrated Priority List, the Combatant Commander stated, "The requirements for prepositioning, lift, and improved logistical systems are integral to Central Command's theater strategy . . ."[22]

U.S. Transportation Command also supported purchasing Blount Island and indicated its support through its integrated priority list, where the Combatant Commander reported, "Plan, program and budget for improvements to the rail loop at Blount Island, and also for the purchase of the entire island." In addition, the previous Commandant of the Marine Corps, General James Jones, regularly addressed Congress on the issue and importance of purchasing Blount Island. Headquarters Marine Corps subsequently teamed with Naval Facilities Engineering Command and developed a two-phased Blount Island acquisition strategy.[23]

In the first phase of the Blount Island acquisition, the Marine Corps will acquire property or easements to property owned by

three different Blount Island commercial tenants located in the the island's explosive safety zone. In addition, the Marine Corps will acquire undeveloped property and property being used for commercial purposes (approximately 137 acres) as well as easements on property presently occupied by commercial activities (approximately 209 acres). The easements will preclude current owners and occupants from further developing the property and minimize personnel allowed in the explosive safety zone during ammunition handling.[24]

In terms of safety aspects associated with ammunition handling, Blount Island handles ammunition approximately eleven times a year. During these operations, portions of the island within the explosive safety zone must be evacuated. The facility normally conducts ammunition operations from 1900 Friday evening through completion at approximately 1200 Saturday morning. Although it conducts ammunition handling during what many consider as off-peak hours, ammunition handling does interrupt and inconvenience other Blount Island tenants. [25]

Congress appropriated full phase 1 funding in the FY00 and FY01 budget. The Corps expects to fund the second phase of the Blount Island acquisition in FY04. In phase 2, the Marine Corps plans to acquire Gate Petroleum's property of approximately 765 acres as well as a 300-acre permitted spoils area consisting of dredged harbor/river material. It has completed the Blount Island environmental assessment (April 01), metes/bounds survey (June 02), title search (June 01), updated property appraisals (September 01), and has begun the phase 1 negotiating process.[26]

Through the acquisition of Blount Island, the Marine Corps envisions enhancing current operations as well as expanding Blount Island's future strategic value. To do so, Blount Island Command developed a proposed business plan that focuses on a widely expanded prepositioning logistics mission capable of supporting other DoD organizations and agencies. Examples of envisioned business opportunities include:[27]

- Layberthing additional military vessels
  - Maritime Sealift Command currently leases a ship berth from Blount Island's current landlord.

- Supporting joint training/exercises for active and reserve units
  - All four services conduct exercises on Blount Island.
- Establishing a formal prepositioning program/school
  - Maritime Prepositioning Force ship maintenance cycle envisioned as providing hands-on download and throughput opportunity (live training aids).
- Mobilization initiatives
  - Constructed rail loop removes island rail transportation bottleneck.
- U.S. Navy:
  - Cargo handling operations
  - Aircraft equipment storage
  - Fleet hospital operations
  - Expeditionary airfield initiatives
  - Marine terminal operations.
- U.S. Army:
  - International Standard Organization (ISO) container repair
  - Bridge boat refurbishment (currently under contract)
  - Prepositioning assistance (overflow for Army Prepositioning Force, etc.)
  - Marine terminal operations
  - Port services activities during mobilization
- U.S. Air Force:
  - Storage activities
  - Prepostitioning assistance for air expeditionary forces
- Tenants:
  - U.S. Navy Cargo Handling Battalion-11
  - Military Sealift Command
  - Military Traffic Management Command
  - U.S. Coast Guard
- Leasing opportunities:
  - Automobile parking with Jacksonville Port Authority
  - Marine terminal operations
  - Restaurant/cafeteria and requisite commercial vendors

Blount Island Command and the Marine Corps view these envisioned business opportunities as win-win situations for all concerned—the Corps, Blount Island Command, Blount Island Command's contracted work force, and those organizations opting to take advantage of Blount Island Command's business proposal. Blount Island Command envisions revenues and benefits from its expanded business as capable of offsetting Maritime Prepositioning Force/Norway Air-Landed Marine Expeditionary Brigade program expenses by reducing overhead costs and possibly providing workload stabilization for a work force cyclically oriented on the Maritime Prepositioning Force maintenance cycle schedule/ requirements. Blount Island Command also envisions enhancing its prepositioning capabilities and reinforcing its status as the DoD's premier prepositioning facility as well as its reputation as the "Center of Prepositioning Excellence."[28]

As the Maritime Prepositioning Force support facility, Blount Island provides the following: close proximity to Marine Corps Logistics Base, Albany; access to a large industrial base and Navy's support structure available in Jacksonville; a fully operational facility; a well-developed road and rail network; a private slipway, located only seven miles from the sea buoy with no encumbrances to maritime prepositioning ship transiting to the slipway; ready access to commercial and military strategic airlift facility; a contiguous, efficient facility with a dedicated pier; ample staging area proximate to the 1,000-foot pier and maintenance facilities; a dedicated and highly skilled workforce; and an established public and private community support base.

The mission of Blount Island Command, under the overall direction of the Commander, Marine Corps Logistics Bases, Albany, is to plan, coordinate, and execute the logistics efforts in support of Maritime Prepositioning Ship and Norway Prepositioning Programs. The Marine Corps strategically deploys three Maritime Prepositioning Ship forward, each capable of supporting an airlifted or amphibious Marine Expeditionary Brigade of approximately 17,000 personnel. The Norway Prepositioning Program supports the Norway Air-Landed Marine Expeditionary Brigade of approximately 13,000 personnel—a slightly smaller footprint than the maritime brigades. The readiness of equipment and supplies embarked

aboard any of the 15 Maritime Prepositioning Force ships (soon to be 16), or stored in the Norwegian caves, is critical to the success of the Maritime Prepositioning Force and the Norway brigade. Thus, once a Marine Air Ground Task Force (MAGTF) embarks or airlifts to marry up with prepositioned equipment and supplies, that equipment must be ready immediately for employment and the supplies/sustainment must be capable of appropriately sustaining the force. It is relative to Maritime Prepositioning Force and Norway Air-Landed Marine Expeditionary Brigade equipment and supply readiness that Blount Island Command finds itself involved in all aspects of the Marine Corps' prepositioning programs.

In 1986, the Marine Corps formed Biennial Maintenance Command in Jacksonville. Under the initial concept, that organization provided a nucleus command structure, operating under the operational control of the Marine Expeditionary Brigade, whose squadron was rotating through Blount Island's maintenance cycle. Under the prepositioning ship maintenance cycles, each Maritime Prepositioning Squadron rotates through Blount Island every 3 years. The work at the island takes 60 days per ship to complete. In 1989, the Marine Corps established Blount Island Command as a subordinate command of Marine Corps Logistics Bases. Therefore, Blount Island Command no longer operates under the control of a given Marine Expeditionary Brigade as its Maritime Prepositioning Force equipment rotates; rather, Blount Island Command has responsibility for planning, coordinating, and executing the logistics efforts in support of Maritime Prepositioning Force and the Norway prepositioning programs.[29]

Every 60 days a ship from one of the three squadrons enters the mouth of the St. Johns River from the Atlantic Ocean guided by river pilots, and travels seven miles up river to dock in a slipway serving the Marine Corps side of Blount Island. With 15 ships in the Maritime Prepositioning Squadron program and another scheduled for delivery this year, the rotation cycle for any one of the 16 ships will be once every 36 months. Thus, the equipment and supplies on the ships will remain at sea or in anchorage for nearly 3 years before returning to Blount Island for maintenance cycle operations.

Once the stern ramp lowers on the slipway pier head, over 650 wheeled vehicles, 375 general cargo containers, and 165 ammunition

containers off-load. In addition, shipboard cranes lift 13 pieces of Navy lighterage off the ship's weather deck and place them in the slipway. Blount Island forwards the equipment and general cargo containers to the prime contractors (Honeywell Corporation and DynCorp). The 13 pieces of lighterage, consisting of powered and nonpowered causeway sections, side loadable warping tugs, and mechanized landing craft, float down the St. Johns River to Atlantic Dry Dock Corporation. The ammunition containers are placed on flatcars and railed to the appropriate Naval Weapons Station. Once the ship off-loads, it sails to a Norfolk shipyard for required maintenance and repairs.

Within 60 days Honeywell Corporation performs cycle maintenance on all equipment while unloading all containers, inspecting and inventorying the contents, rotating stocks as required, then restuffing the containers. DynCorp conducts the same process on the aviation support equipment and aviation associated containers. At the same time, Atlantic Dry Dock inspects and repairs the thirteen pieces of Navy lighterage. Under the direction of Marine Corps Systems Command, containerized ammunition moves to specific Naval Weapon Stations, which inspect, rotate, and rework the ammunition as necessary, and then return it to Blount Island for backloading. Blount Island Command oversees the entire Maritime Prepositioning Force maintenance cycle process, and at the end of the 60-day maintenance period, it ensures the ship's equipment and supplies are operationally ready, and backloaded appropriately, and that the ship is ready to get underway to return to its designated strategic location.[30]

Blount Island Command, under the overall direction of the Commander, Marine Corps Logistics Bases, Albany, is responsible for planning, coordinating, and executing the logistics efforts in support of the Norway prepositioning program.[31] The Marine Corps established the Norway Air-Landed Marine Expeditionary Brigade Prepositioning Program in the early 1980s to reinforce northern Norway. Although that need has substantially diminished with the ending of the Cold War, the Marine Corps and the DoD view the Norway Air-Landed Marine Expeditionary Brigade Prepositioning Program as strategically important, because it provides the United States with a uniquely flexible capability of a brigade's worth of

equipment and supplies, strategically prepositioned in Norwegian caves, and ready for immediate employment anywhere in Europe. Selected assets from the Norway brigade directly supported Operation DESERT STORM and more recently, Operation NOBLE ANVIL (the Bosnian air campaign).[32]

The Government of Norway provides six geographically separated sites to store the equipment, supplies, and ammunition associated with the brigade. Those sites are caves that the Norwegians carved in the sides of mountains. They are well-lighted, temperature-controlled, ventilated, and possess cement floors, canvassed walls, and ceilings. They are not musty, damp, dark or dirty, as one might imagine. Moreover, Norwegians store aviation support equipment in dehumidified storage buildings at several Norwegian air stations.[33]

The United States established a memorandum of understanding with Norway, whereby that nation's military accepted responsibility for the prepositioning program equipment, supply, and ammunition maintenance, care, and storage. Through a process similar to the one Blount Island Command employs in Maritime Prepositioning Force maintenance, the Norwegian military employs civilian technicians to conduct regularly scheduled maintenance on all aviation and ground equipment, and care in storage of supplies and ammunition. Marine Corps logistics oversight of the Norwegian effort resides within a number of commands. Under the direction of Commander, Marine Corps Logistics Bases, Blount Island's commander serves as executive agent for administrative control, accountability, and logistics support for prepositioned assets in Norway, less ammunition and aviation support equipment. The Commander, Marine Corps Systems Command, is responsible for ground ammunition oversight, while the Commander, U.S. Navy Europe has responsibility for aviation ammunition. The Commanding General, 2nd Marine Aircraft Wing manages the aviation support equipment packages. The Commander, Marine Forces Europe also plays an important role in overseeing and coordinating many activities associated with the Norway Air-Landed Marine Expeditionary Brigade prepositioning program.[34]

For over 15 years, the Marine Corps has home based its two global prepositioning programs at Blount Island Command. Thus,

the command is an essential element of Maritime Prepositioning Force and will support future global prepositioning programs as they evolve and transform to keep pace with the dynamics of world order, an evolving national security strategy, derivative military strategies, and required crisis response/power projection capabilities.

NAVY/MARINE CORPS VISION

The Marine Corps' Maritime Prepositioning Force program planning is in step with the Quadrennial Defense Report directed military transformation and the most recent National Security Strategy shaping the Corps' future warfighting capabilities, its ability to respond to crises, and its capability of projecting military power. The Navy's strategic vision, articulated in "Naval Power 21," provides the general framework for that transformation.

The *Naval Transformational Roadmap*, recently approved, describes how naval forces will realize nine new or drastically improved transformational warfighting capabilities and organize conceptually to optimize/maximize unique naval capabilities. The Transformational Roadmap prescribes jointness in every aspect of the Navy/Marine Corps transformational effort.[35]

Seapower 21 and *Marine Corps Strategy 21* define the Navy and Marine Corps current and future Service strategies. The Navy and Marine Corps strategies also provide clarity and direction in defining operating concepts, identifying requisite resource requirements and charting "the way ahead" for a Navy/Marine Corps Team that will operate as a joint team and in many situations, as part of a larger joint force.[36]

In applying energy and resources to implementing its strategy, the Marine Corps developed and is now employing the concept of *Expeditionary Maneuver Warfare (EMW). Naval Power 21* defines Expeditionary Maneuver Warfare as "a capstone concept that is the union of the Marine Corps' core competencies; maneuver warfare philosophy; expeditionary heritage; sea basing; and integrating, operational, and functional concepts by which the Marine Corps will organize, deploy, and employ forces today and in the future."[37] Expeditionary Maneuver Warfare is more than a capstone concept—

it is the overarching concept from which the Marine Corps will deploy and employ Marine expeditionary forces now and for the foreseeable future. Expeditionary Maneuver Warfare also provides the conceptual framework for developing and implementing its future maritime prepositioning capability.

It is important to note that *Seapower 21* defines a Navy with three fundamental concepts critical and complimentary to *Marine Corps Strategy 21's* implementation and future. *Seapower 21's* concepts are *Sea Strike, Sea Shield, and Sea Basing,* enabled by *FORCEnet.* According to *Naval Power 21,* these three concepts "enhance America's ability to project offensive power, defensive assurance, and operational independence around the globe."[38] *Seapower 21* defines these three concepts as follows:

- *Sea Strike* is a broadened concept for naval power projection that leverages enhanced command, control, communications, computers, intelligence, surveillance, and reconnaisance (C4ISR), precision, stealth, and endurance to increase operational tempo, reach, and effectiveness—*"the ability to project precise and persistent offensive power from the sea."*

- *Sea Shield* develops naval capabilities related to homeland defense, sea control, assured access, and projecting defense overland. By doing so, it reassures allies, strengthens deterrence, and protects the joint force—*"defensive assurance throughout the world."*

- *Sea Basing* projects the sovereignty of the United States globally while providing Joint Force Commanders with vital command and control, fire support, and logistics from the sea, thereby minimizing vulnerable assets ashore—*"enhances operational independence and support for the joint forces."*

Understanding Expeditionary Maneuver Warfare's role relative to "Seapower 21" concepts as well as the envisioned contributions expected of the future Maritime Prepositioning Force

in expeditionary maneuver warfare, demands a more expanded conceptual understanding of the Sea Strike, Sea Shield, and Sea Basing. Lieutenant General Edward Hanlon, Jr., and Vice Admiral Dennis V. McGinn provided an excellent overview of these concepts in their essay titled "Power and Access . . . From the Sea." In their article, the authors describe *Sea Strike* as: "capitalizing on the strategic agility, operational maneuverability, precise weapons employment, and indefinite sustainment of naval forces, Sea Strike is a broadened naval concept for projecting dominant and decisive offensive power from the sea in support of joint objectives, with reduced dependence on tactical land bases." The authors indicate that "Sea Strike will also provide fully integrated naval aviation force options that include both Marine squadrons embarked on carriers and amphibious ships and Navy squadrons operating from expeditionary shore bases"—something the Navy/Marine Corps Team is already doing. General Hanlon and Admiral McGinn also describe four transformational capabilities being pursued within the overall *Sea Strike* concept. Those capabilities are (1) persistent intelligence, surveillance, and reconnaissance (ISR); (2) time-sensitive strike; (3) information operations; and (4) ship-to-objective maneuver (STOM).[39]

While all four capabilities are relevant to the Sea Strike concept, the first three are not, however, necessarily germane to this discussion on Maritime Prepositioning Force. The fourth capability of ship-to-objective maneuver is, however, crucial to any discussion of Maritime Prepositioning Force (Future), considering the impact it will have as an essential enabler in seabasing and future operational maneuver from the sea. The concept of ship-to-objective maneuver is a force multiplier that will enable future Marine expeditionary forces to increase operational tempo, thus keeping the enemy off balance and forcing him to operate at a pace difficult to sustain.

At the same time, ship-to-objective maneuver facilitates flexibility by enabling Marine expeditionary forces to maneuver directly against objectives deeper inland without establishing intermediate staging bases or establishing a foothold on the beach as Marine forces have done in the past. (It is in this role that the Marine Corps envisions Maritime Prepositioning Force (Future) as a key player—equipping, provisioning and sustaining the force from a sea-based platform.) The Navy and Marine Corps view Operational Maneuver

from the Sea and Ship-to-objective Maneuver as "transformational." Expeditionary Maneuver Warfare capabilities will provide the joint force commander with flexible crisis response/power projection capabilities for employment the moment Marine expeditionary forces arrive in theater, and the capability to maneuver against key objectives from sea-based platforms using sea space as a maneuver area.[40] *Sea Shield* exploits network-centric control of the seas and forward-deployed defensive capabilities to defeat area-denial strategies. It enables joint forces to project and sustain power.

Sea Basing is not necessarily about platforms, logistics, or technology. Sea basing is about maneuver and options. In fact, Task Force 58 (TF 58) demonstrated this during Operation ENDURING FREEDOM, when it conducted a 400-mile ship-to-objective maneuver from the ships of the *Peleliu* Amphibious Readiness Group into Afghanistan's "landlocked" Objective RHINO. During Operation ENDURING FREEDOM, TF 58 demonstrated that sea basing is about boldly maneuvering a Marine expeditionary force from amphibious ships (the seabase) to a chosen objective, thus dictating the time and location the maneuver force confronts the enemy—a "textbook" example of Expeditionary Maneuver Warfare, the cornerstone of naval transformation, and an example of naval forces' potential contribution to the joint fight.

In the future, the Navy and Marine Corps envision Maritime Prepositioning Force (Future) as a critical enabler and facilitator for Marine expeditionary forces operating against objectives from sea bases, such as amphibious ships or mobile amphibious platforms serving as sea bases located in the maneuver space offshore. Maritime Prepositioning Force (Future)'s envisioned contribution to sea basing and Expeditionary Maneuver Warfare lies in its ability to provide combatant commanders with phased at-sea force arrival and assembly, selective offload, sustainment, and reconstitution of a Marine expeditionary brigade-sized force—all from seaspace.[41]

MARITIME PREPOSITIONING FORCE, FUTURE (MPF(F))

The Navy/Marine Corps team envisions replacing the current Maritime Prepositioning Force program with a now-developing concept. The Maritime Prepositioning Force (Future) concept

includes improved and innovative platforms designed to support new maritime concepts such as Expeditionary Maneuver Warfare, Operational Maneuver From the Sea (OMFTS), Ship-to-Objective Maneuver (STOM) and sea basing. Maritime Prepositioning Force (Future) is in the early stages of its concept development process where the Marine Corps is exploring new technology areas such as selective onload/offload, internal ships systems (i.e., automated warehousing, item/pallet/container operations, RO/RO systems, and flow patterns), external ship systems (i.e., ramps, lighterage, and other craft interfaces), modular system/subsystem concepts, and aircraft interface technologies. The Marine Corps envisions its fleet of Maritime Prepositioning Force vessels as integral elements of the sea basing concept, designed and configured to enhance Maritime Prepositioning Force capabilities and operations supporting a wide range of envisioned combat and noncombat operations.[42]

Over the next 2 decades, the Marine Corps intends to replace today's Maritime Prepositioning Force ships, concepts and doctrine, and capabilities with new ships, new employment concepts and more importantly, transformational capabilities specifically designed to compliment and support the evolving Expeditionary Maneuver Warfare and the Navy's capstone concepts spelled out in "Naval Power 21."[43]

Maritime Prepositioning Force 2010 and beyond is the concept by which the Marine Corps envisions its next-generation prepositioning forces as enhancing forward presence and power projection capabilities. The Marine Corps envisions this prepositioning force as a force multiplier with expanded functions increasing its ability to support expeditionary operations across an increased range of contingencies. These are reflected in the pillars of future prepositioning operations—force closure, amphibious task force integration, indefinite sustainment, and reconstitution/ redeployment.[44]

Pillars of Maritime Prepositioning Force (Future).

Maritime Prepositioning Force (Future) enables sea-based force closure by facilitating the arrival and assembly process at sea, thus eliminating the requirement for access to secure ports and airfields.

The concept's goal is to enable Marines to deploy by a combination of surface mobility and strategic, theater, and tactical airlift to meet maritime prepositioning platforms already underway or en route to an objective area. The Marine Corps envisions these platforms as capable of billeting units while they complete mission preparation, and are designed to facilitate an easy and efficient equipment and mission preparation process. Thus, elements of expeditionary force will arrive in the objective area mission ready.[45]

The Marine Corps envisions developing this capability to support Operational Maneuver from the Sea by selectively offloading mission specific equipment and supplies for the amphibious force assault echelon from a sea-based platform and then sustaining the force throughout its mission from that same sea-based platform. The prepositioning vision includes multi-purpose ships capable of providing facilities for assault support aircraft, surface assault craft, advanced amphibious assault vehicles, and organic lighterage capable of operating in sea-state conditions up to sea-state three. To ensure a prepositioning force capable of anticipating the needs of the engaged amphibious force, the Marine Corps envisions equipping prepositioning ships with the communications assets essential to integrating the prepositioning force with the amphibious force and including prepositioning ships in the tactical communications architecture. The Marine Corps does not envision future prepositioning ships as capable of forcible entry, but rather as a capability to compliment and reinforce the striking power of an amphibious force projecting power from the sea.[46]

The Marine Corps envisions its Maritime Prepositioning Force (Future) as capable of sustaining the amphibious force indefinitely from sea-based platforms. It will represent an element of the supply pipeline, capable of drawing sustainment from the supply source and ultimately supporting the engaged warfighter via the sea base. Essentially, Maritime Prepositioning Force (Future) will become the warfighters' supply system. Finally, the Marine Corps also envisions prepositioning force as capable of conducting in-theater reconstitution and redeployment, thus negating the requirement to conduct extensive reconstitution efforts at strategic sustainment bases, such as Blount Island Command, Guam, Okinawa or Diego Garcia, and therefore providing the joint force commander with a

Maritime Prepositioning Force Marine Air Ground Task Force ready for a follow-on mission.[47]

CONCLUSION

The Marine Corps Maritime Prepositioning program is an evolutionary program and combat multiplier initiated to enhance the Marine Corps' ability to project combat power and military capability rapidly in response to a crisis anywhere in the world. In August 1990, its employment in Operations DESERT SHIELD and DESERT STORM validated the Maritime Prepositioning Force concept by enabling the first battalion of the 7th Marine Amphibious Brigade to occupy defensive positions within 4 days of arriving in Saudi Arabia. Since DESERT SHIELD and DESERT STORM, the Marine Corps has revalidated the maritime prepositioning concept by successfully employing the force assets in contingency operations such as Operation FIERY VIGIL (in support of the disaster relief effort in the Philippines in June 1991 when Mount Pinatubo erupted) and Operation RESTORE HOPE (in support of the peacekeeping and humanitarian relief effort in Somalia).[48] Moreover, as this chapter is being written, the Maritime Prepositioning Force is supporting the America's force build up in Kuwait, as the United States prepares to engage Saddam Hussein and the Iraqi military in the event the United States attacks Iraq.

The Marine Corps views its Maritime Prepositioning Force of the future as a key transformational capability that is in step with the DoD's program of military transformation and the U.S. Navy's "Naval Transformational Roadmap." The Marine Corps' envisioned future maritime prepositioning concept fully supports "Joint Vision 2020" and the Navy/Marine Corps concept of Naval Expeditionary Maneuver Warfare. Since the inception of the Maritime Prepositioning Force, the Marine Corps has improved the program by incorporating innovative ideas, concepts, and technological advancements into the program, thus mainaining its focus of providing the Marine expeditionary brigade and other expeditionary forces with more responsive capabilities.

Sea basing is the centerpiece of the Navy/Marine Corps transformational vision for the future. The Maritime Prepositioning

Force (Future) is a key concept supporting that vision. The Marine Corps envisions its Maritime Prepositioning Force (Future) as an even more effective force multiplier with significantly expanded operational flexibility and capability essential in today's uncertain environment.

Blount Island Command is the Maritime Prepositioning Force's homeport and center for equipment/supply maintenance and sustainment. The Marine Corps currently leases its Blount Island property on a man-made island located near the mouth of the St. Johns River in Jacksonville. The Marine Corps has a validated requirement for a Maritime Prepositioning Force maintenance facility such as Blount Island Command. Numerous studies recommend and support the Marine Corps' intention of buying the island as a long-term cost saver, vice leasing it, as is currently the case. Blount Island also supports another premier Marine Corps prepositioning capability located in Norway and is a world class prepositioning support facility, postured to support the Maritime Prepositioning Force of the future.

While the day-to-day maintenance cycles that depend on places like Blount Island may not appear as sexy or as important to national security as sophisticated new equipment or expensive modern technology, Blount Island is a force multiplier as well as a critical element in military transformation. The Marine Corps' Maritime Prepositioning Force, Norway Air-Landed Marine Expeditionary Brigade Prepositioning program, and Blount Island Command are national strategic assets well suited for supporting the National Military Strategy, and capable of enhancing America's current and future power projection and crisis response capabilities.

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CHAPTER 10

HOMELAND SECURITY: THE DEPARTMENT OF DEFENSE, THE DEPARTMENT OF HOMELAND SECURITY, AND CRITICAL VULNERABILITIES

Lieutenant Colonel Daniel M. Klippstein

> We look forward to working with the newly proposed organization to do everything possible to provide for our country's national defense.
>
> Donald Rumsfeld, June 2002

INTRODUCTION

Today, Americans consider themselves "a nation at war." Though the United States has experienced war, both total and limited, the nature of this particular war is one with which it has had little experience. Some have defined this conflict as a "War on Terrorism," a war whose duration will extend for many years and whose battlefields will be simultaneously abroad and within national borders. As a nation, Americans now confront the unique and unenviable task of having to conduct both strategic defensive and offensive operations. Success will depend on how well they can sustain the strategic defensive, while enduring the uncertainty of prolonged offensive actions as the U.S. military seeks to ". . . bring our enemies to justice, or bring justice to our enemies."[1]

The prosecution of this war has followed the traditional American pattern of waging war—absorb the first attack, mobilize national will, apply the necessary resources, and conduct offensive operations. America's strategy is simple—seek out and annihilate the enemy. The political and military end state is not one of limited objectives, but one consistent with total war. This war will end only when the enemy no longer has the capability or will to fight.

America's strategic, operational, and tactical actions seek to gain and retain the initiative—to take the fight to the enemy—regardless of where he lives or operates.

Executing decisive offensive operations relies upon both national will and the ability to project power from the protected borders of the United States. Yet, as Americans have discovered, their borders do not provide the necessary physical protection they have taken for granted over the past two centuries. Thus, America left a strategic center of gravity—the national will—open to attack.[2] For the first time since World War II, Americans must focus part of their national efforts on conducting strategic defensive operations.

Strategic defensive operations serve a two-fold purpose: first, to protect U.S. centers of gravity from (further) attack; second, they facilitate the uninhibited conduct of power projection in support of decisive operations. One can also term this strategic defensive "homeland security.". Viewed within the context of current joint doctrine, homeland security represents a critical capability.[3]

Today, herculean federal efforts are underway to improve the nation's homeland security by attempting to combine the efforts of a myriad of bureaucratic departments and agencies. Key to the focusing of these efforts is the relationship between the Department of Defense (DoD) and the newly formed Department of Homeland Security (DHS). This relationship represents a critical requirement, since its effectiveness is a condition that directly supports the success of homeland security and sustainment of the national will.[4] Any seams or friction within this relationship represent a critical vulnerability that terrorist can exploit to affect future attacks.[5] Therefore, a strong relationship between the DoD and the DHS reduces that vulnerability to America's homeland security and ensures the successful prosecution of the war on terrorism.

This chapter identifies several key issues that, if improperly addressed, could lead to critical vulnerabilities, since the DoD's and the DHS's relationship is not yet wholly functional. To identify potential vulnerabilities, it is first essential to address homeland security as a concept; provide an overview of the evolving roles of both departments in relation to homeland security; and relate their roles to current national strategies and statutory requirements. From this perspective, one can identify potential critical vulnerabilities

and provide recommendations to deny enemy identification and exploitation. Such recommendations require interagency coordination and approval through either the National Security Council or the Homeland Security Council. Choosing between these fora has implications for the DoD and the DHS and influences how each department will seek to reduce the identified vulnerability. Nevertheless, both departments have an obligation to the American people to identify and resolve critical vulnerabilities. The elimination of these vulnerabilities protects the United States through an effective strategic defense and enables the conduct of decisive operations in the war on terrorism.

HOMELAND SECURITY—THE WAKE-UP CALL

Before the terrorist attacks of September 11, 2001, the concept of homeland security had gained only limited attention of the federal bureaucracy. A number of studies, including those conducted by RAND, the Center for Strategic and International Studies (CSIS), and the Hart-Rudman Commission, warned of the growing threat to the homeland and recommended steps to strengthen the nation's ability to prevent and recover from a terrorist attack. A consistent theme was that the nation had not organized itself to defend against increasing levels of terrorist threats. More pointedly, it was not a question of "if" terrorist would attack the United States, but rather "when."[6] The mid-morning hours of September 11, 2001, bore out such concerns. In the wake of 9/11, Americans confronted the fact that the studies had been correct; as a nation, the United States was unprepared and vulnerable to terrorist attacks. Americans discovered that over 100 federal agencies—including DoD—shared responsibility for "homeland security," yet effective interagency coordination was lacking. A coherent strategic defense of the nation's homeland was found wanting because "the country has never had a comprehensive and shared vision of how best to achieve this goal."[7] Efforts to address this failure are generating significant requirements for the DoD.

THE NATIONAL STRATEGY FOR HOMELAND SECURITY

In July 2002, nearly 10 months after the September 11 attacks, the Bush administration developed and published the National Strategy for Homeland Security (NSHS). This strategy statement, the first ever promulgated by a U.S. President, aimed at providing a coherent national effort to improve the security of the American homeland. Its stated objectives are: (1) prevent terrorist attacks within the United States; (2) reduce America's vulnerability to terrorism; and (3) minimize the damage and recover from attacks that do occur.[8]

Establishment of critical mission areas that support the accomplishment of the above objectives is key to the strategy's execution. The NSHS establishes six critical mission areas as a framework to focus the nation's efforts: (1) intelligence and warning; (2) border and transportation security; (3) domestic counter terrorism; (4) protecting critical infrastructure, (5) defending against catastrophic terrorism; and (6) emergency preparedness and response.[9] This strategy further defines specific objectives and goals for federal, state and local agencies that are vital to a cohesive strategic defense and the security of the homeland. Executing the NSHS requires a new cabinet level department with overall authority and responsibility for accomplishing these objectives. The agency designed for this end, the Department of Homeland Security, has the responsibility of unifying national efforts for executing this strategy.

THE DEPARTMENT OF HOMELAND SECURITY

On November 25, 2002, President Bush signed the Homeland Security Act of 2002 (HSA) and thereby established the DHS. This act represents the most sweeping reorganization of the federal government since the National Security Act of 1947 established the DoD. While arguments continue over the necessity for a new department, the fact remains that consolidating responsibility for homeland security into a single agency, responsible to the president, congress and the nation, represents a significant step in creating

a strategic defense focused on protecting the nation from future attacks. Once operational, the DHS's budget of approximately $36.2B, is the eighth largest in the federal government for Fiscal Year 2004. With over 170,000 employees, it will be the third largest department of the 15 departmental cabinet positions within the government. Given its mission, budget and manpower, the DHS will be one of the most influential governmental agencies, in company with the DoD, the Department of State, the Department of Justice, and the Central Intelligence Agency.[10]

The Homeland Security Act of 2002, clearly makes the DHS responsible for the six critical mission areas of the NSHS in the following mission statement:

> (a) Prevent terrorist attacks within the United States; (b) reduce the vulnerability of the United States to terrorism; and (c) minimize the damage, and assist in the recovery, from terrorist attacks that do occur within the United States; (d) carry out functions of entities transferred to the Department [of Homeland Security], including acting as a focal point regarding natural and manmade crises and emergency planning...; and (g) monitor connections between illegal drug trafficking and terrorism, coordinate efforts to sever such connections, and otherwise contribute to efforts to interdict illegal drug trafficking.[11]

To accomplish these missions, the new department will consolidate over 22 agencies from across the federal government into a new, more cohesive department. Few, if any, federal agencies will remain untouched by the reorganization, including the DoD.

This consolidation will be no small task. One of the department's greatest internal challenges will be to instill organizational identity, pride, and a common culture, while recognizing the divergent subcultures within the existing agencies. These subcultures will significantly influence development of intradepartmental relationships. They will also influence interdepartmental behavior with other agencies, including the department's participation within the interagency coordination process. In either case, forging a new organizational culture to create a synergy of efforts, internally and externally, is not achievable overnight or by the stroke of a pen. It represents a continuous process over the course of the foreseeable

future.

Organized similar to other federal departments, the DHS will have a deputy secretary, four under secretaries, numerous assistant secretaries, and directors of various subordinate agencies. Of particular importance to DoD is the Commandant of the Coast Guard and the four Departmental Under Secretaries: Information Analysis and Infrastructure Protection, Science and Technology, Border and Transportation, and Emergency Preparedness and Response. The historical interaction of the soon-to-be-subordinate agencies with DoD indicates that future coordination requirements will center on these five key functional offices. Establishing direct and effective coordination between the under secretaries and their DoD counterparts will create the essence of the critical requirement to support homeland security.

Despite its significant budget and manpower, the DHS does not have sufficient dedicated assets, including equipment and specially trained personnel, to respond independently to catastrophic events—natural or manmade—by itself. It must rely upon state and local government agencies to provide first responders for most events and depend on other departments within the federal government for specialized or unique equipment or expertise. While the Department will have to coordinate closely with other federal departments and agencies, its most critical relationship will be with the DoD. This relationship will receive increasing focus within federal and public circles, as the concept of homeland security and the role of the DHS matures.

DEFINING HOMELAND SECURITY AND DOD'S ROLE

Prior to the publication of the National Strategy for Homeland Security, there was wide spread confusion and disagreement within DoD and the federal government at large, regarding the concept and definition of homeland security. In many instances, the terms "homeland security" and "homeland defense" were mutually interchangeable. In some circles they were synonymous with national defense issues. However, the NSHS codifies the definition

of homeland security and provides a common point of reference for federal, state, and local government agencies. This definition places the relationships among various agencies, especially the Departments of Homeland Security and Defense, in perspective. The National Strategy for Homeland Security defines homeland security as: "a concerted national effort to prevent terrorist attacks within the United States, reduce America's vulnerability to terrorism, and minimize the damage and recover from attacks that do occur."[12] This definition emphasizes a national, as opposed to a federal, effort to secure the homeland, and focuses those efforts on the prevention of and response to terrorism.

Within this framework, DoD provides military support to the DHS, as the lead federal agency for homeland security. However, in extreme circumstances, DoD may become the lead federal agency in securing the homeland. Regardless of its domestic support requirements, DoD simultaneously contributes to homeland security through on-going military operations overseas (e.g., Operation ENDURING FREEDOM) and overseas forward presence. DoD's actions, both at home and abroad, aim at deterring, preventing, preempting, disrupting, or destroying threats to the United States before they can reach the nation's shores.

Secretary of Defense Donald Rumsfeld established the parameters for the Department's support to homeland security by dividing his department's roles into homeland defense and civil support mission areas. He characterized the Department's operational involvement in terms of three circumstances: "extraordinary" circumstances (homeland defense), "emergency" circumstances (military assistance to civil authorities), and "limited scope" operations (military support to national special security events):

> First, under *extraordinary circumstances* that require the department to execute traditional military missions, such as combat air patrols and maritime defense operations. In these circumstances, DoD would take the lead in defending people in the territory of our country supported by other agencies. And plans for such contingencies would be coordinated, as appropriate, with the National Security Council and with the Department of Homeland Security. . . . Second is the *emergency circumstance* of a catastrophic nature. For example, responding to the consequences of attack,

> assisting in response, today, for example, with respect to forest fires or floods, tornadoes and the like. In these circumstances, DoD may be asked to act quickly to provide and supply capabilities that other agencies simply don't have . . . And third, our missions or assignments that are *limited in scope* where other agencies have the lead from the outset. An example of this would be security at special events, like the recent Olympics, where DoD worked in support of local authorities.[13] (author's emphasis)

These terms describe two critical aspects of the DoD's functions in support of homeland security. First is the temporal nature of its support, based on the severity of the event or crisis to which the Department responds. Each term implies that departmental support or activity will be temporary—focused on addressing the immediate needs that exceed the lead federal agency, state, or local capabilities in stabilizing a crisis situation. Second, these categories represent traditional areas of the Department's activity in defending the nation and providing military assistance to civil authorities in times of crisis. Collectively, these terms provide a framework within which the Department can determine and sequence its commitments in response to crises. Additionally, by defining these three circumstances, the Department can develop and refine specific operational plans for the domestic employment of military assets, across the spectrum of potential responses, always in consideration of constitutional and legal limitations.

Despite the broad statutory authority of the Department of Homeland Security, it does not have the authority to direct other federal departments, including DoD, to conduct specific functions or expend internal resources. The Secretary of Defense or the President determines, when and where to employ DoD assets. The commitment of DoD assets in any of the three circumstances, in support of the NSHS, must occur within the context of the demands of the National Security Strategy.

THE NATIONAL SECURITY STRATEGY OF THE UNITED STATES

The National Security Strategy of the United States (NSS)

provides a broad strategy for how the United States, employing the various elements of national power, will confront a complex and increasingly dangerous strategic environment. This strategy includes a specific focus on the war on terrorism and establishes homeland security as a vital national interest.

DoD's efforts, in support of the NSS, focus on identifying and destroying threats to the nation before they can threaten U.S. borders. However, some threats, whether conventional or asymmetrical, will still evade detection, penetrate U.S. defenses, and strike critical vulnerabilities. In such circumstances, though the United States treats terrorism inside its borders as a criminal act, DoD still has a significant role. It must execute its role in coordination with the DHS to prevent and/or respond to a terrorist attack. A secure homeland is fundamental to the nation's ability to execute the requirements of its NSS.

For DoD, the complementary requirements of the NSS and the NSHS present a complex challenge in the balancing of homeland and national security obligations. Concurrently, to fulfill the broad requirements of homeland security, while "transforming" to meet future threats, the NSS requires the Department to develop a "...broad portfolio of military capabilities that must also include the ability to defend the homeland, conduct information operations, ensure U.S. access to distant theaters, and protect critical U.S. infrastructure and assets in outer space."[14] Additionally, the NSS states that: "Intelligence—and how we use it—is our first line of defense against terrorists and the threat posed by hostile states."[15] This statement, coupled with requirements in the NSHS, unmistakably establishes the need for unity of effort and reinforces the requirement that: "[I]ntelligence must be appropriately integrated with our defense and law enforcement systems...to strengthen intelligence warning and analysis to provide integrated threat assessments for national and homeland security."[16] Accomplishing intelligence fusion and sharing will require unprecedented cooperation and trust within the federal government. Likewise, the requirement for intelligence sharing will test the relationship between the DoD and DHS.

The NSS provides for the use of military capabilities to defeat the threat of terrorism and to support homeland security. In doing so, it establishes a tenuous link between the DHS and the recently

established combatant command, U.S. Northern Command (USNORTHCOM).[17] However, the position shared by DoD and that of Secretary Tom Ridge, the first Secretary of Homeland Security, is that the DHS will not have command or control over USNORTHCOM, but will work through DoD for military support.[18]

The mutually supporting nature of the NSS and the NSHS is reflected in the following subordinate national strategies: the 2001 Quadrennial Defense Review, the National Strategy to Combat Weapons of Mass Destruction, the National Strategy for Combating Terrorism, the National Strategy for Securing Cyberspace, the National Strategy for the Physical Protection of Critical Infrastructure and Key Assets, the National Drug Control Strategy, and the National Military Strategy.[19] Collectively, these strategies represent the underpinnings of America's strategic defense. Not insignificantly, these strategies, with their increased emphasis on improving homeland security, have begun to blur the traditional distinctions between military and law enforcement actions and roles. An example of this blurring was the deployment of National Guard soldiers into airports and on the nation's borders in the days, weeks, and months following the September 11 attack. The purpose of these deployments was to bolster traditional federal, state, and local law enforcement capabilities to identify and prevent follow-on terrorist attacks. Additional examples include the linking of civilian air traffic control systems with those of the North American Air Defense Command to provide increased warning of potential air threats, and the continued support of DoD's Joint Task Force 6 to the U.S. Customs and Border Patrol to prevent illegal entry of personnel and drugs along the southern border. These examples, coupled with requirements yet to be defined, increasingly challenge DoD as it strives to balance its warfighting requirements with those of supporting homeland security. Defining the relationship between the DoD and the DHS is essential to seeking this balance and represents the formation of the critical requirement that directly supports homeland security as a critical capability.

THE CRITICAL REQUIREMENT: THE RELATIONSHIP BETWEEN THE DEPARTMENT OF DEFENSE AND DEPARTMENT OF HOMELAND SECURITY

An effective, cooperative relationship between the DoD and the DHS is a critical requirement to the securing of the homeland; an ineffective relationship would present a critical vulnerability to the nation's security. Therefore, a commitment to achieving a unity of effort is fundamental in defining this relationship. Interagency disputes and "turf battles" are dysfunctional hallmarks of the federal bureaucracy, especially when funding, prestige, and political influence are at stake. Yet, executing an effective homeland security strategy relies on clear divisions of responsibility, adaptive and flexible supported and supporting relationships, and the sharing of information and intelligence to create a common operating picture among the departments. The objective, or "end," of this strategic relationship is the protection of the American homeland, its people, and the national way of life. The "ways" include cooperative actions across a spectrum of issues, both from a "vertical" perspective by conducting interagency coordination through either the National Security Council (NSC) or Homeland Security Council (HSC) and from a "horizontal" perspective through direct coordination and bilateral cooperation among departments. The "means" include funding and mutually accepted boundaries, especially regarding "dual-use" items, that enhance homeland security.[20] In essence, a functional and effective bridge between the DoD and the DHS depends on breaking new bureaucratic ground to achieve this essential unity of effort.

Creating requirements, whether in legislation or through national strategies, for these departments to coordinate and execute is easier said then done. Forging an effective working relationship to achieve national and departmental objectives will create some interdepartmental friction. However, given the current strategic environment—highlighted by the continuing global war on terrorism, the war with Iraq (Operation IRAQI FREEDOM), concerns over North Korea's nuclear intentions, and a struggling national economy—reducing this friction is critical to addressing

potential critical vulnerabilities. Catastrophic consequences will result from departmental and interagency friction, if it produces excessive parochialism or procrastination.

The DoD and the DHS (once operational) must create organizational mechanisms to coordinate their respective efforts to implement requirements of both national strategies. DoD, by virtue of its traditional mission, organization, and resources, has its own perspective, influenced by its organizational culture, on how to support these strategies. The DHS, as a new and evolving organization, will need to define and create its own institutional perspectives, influenced by its emerging organizational culture. Its overarching mission will define this perspective and how it absorbs and integrates its 22 existing functional organizations, their individual organizational cultures, and institutional biases to form a cohesive department. While no small task, the DHS has an opportunity to bring focus to previously disparate homeland security efforts, create a distinctive organizational culture, and forge a rejuvenated sense of cooperative relationships within the federal bureaucracy. The emerging relationship between these two departments can ensure security of the homeland and protection of the nation's strategic center of gravity.

An assessment of the evolving relationship between these two departments suggests three critical vulnerabilities: (1) use of military forces; (2) intelligence sharing; and (3) funding for homeland security requirements. Each requires immediate attention. A failure to address these potential critical vulnerabilities would leave the nation even more vulnerable to attack.

Use of Military Forces.

As previously mentioned, the increased blurring of military and law enforcement functions poses significant challenges to the DoD and its emerging relationship to the DHS. Though the DHS does not have the investigative authority vested in the Department of Justice for broader law enforcement activities, it does have responsibility for border, immigration, and transportation security, which confers

its own specific law enforcement authority. To execute these requirements, it is likely that the DHS may seek military assets, provided either by the National Guard (in a federalized or state active-duty status) or active duty forces, in support functions closely resembling traditional law enforcement activities.

Section 876 of the HSA 2002 strictly prohibits the DHS from directing or controlling military activities. That section states:

> Nothing in this Act shall confer upon the Secretary [of Homeland Security] any authority to engage in warfighting, the military defense of the United States, or other military activities, nor shall anything in this act limit the existing authority of DoD or the Armed Forces to engage in warfighting, the military defense of the United States, or other military activity."[21]

Added at the specific request of DoD, this stipulation ensures that direct control of military assets remains with the Secretary of Defense in accordance with Title 10, Unites States Code. Military assets include active duty forces of all four services, their National Guard and Reserve component forces, and supporting DoD agencies. There is one exception—the U.S. Coast Guard.

In accordance with the HSA 2002, the U.S. Coast Guard represents an exception to the DHS's control of a military-type organization. The Coast Guard, a subordinate agency of the DHS as of March 1, 2003, has a military character and culture with a unique mission and a law enforcement capability. On a daily basis, the Coast Guard is responsive and subordinate to the DHS; yet, in time of declared war or if directed by the President, the Coast Guard becomes part of the Department of the Navy under DoD. On a daily basis, DoD relies on the Coast Guard to conduct homeland coastal protection and maritime defense under the control of the DHS. Yet, the Coast Guard represents a unique capability desired by geographical combatant commanders in support of their wartime missions. The recent deployment of eight Coast Guard vessels to the U.S Central Command's Area of Responsibility in support of the war on terrorism and current military action against Iraq, places immediate pressure on the DoD and the DHS to address potential critical vulnerabilities cooperatively.

Whereas the DHS cannot direct nor control military forces in conduct of "homeland defense," under the previously described "extraordinary circumstances" it can request and receive military assets to respond to either "emergency circumstances" or "limited scope circumstances." Similarly, DoD provides military assistance to civil authorities in accordance with DoD Directives 3205 series,[22] and in consonance with the restrictions of the Posse Comitatus Act of 1878.[23] Section 886 of the HSA 2002 affirms the continued restrictions on the use of military forces as a *posse comitatus* to execute the laws of the United States, unless directed by the President to restore domestic order resulting from either an insurrection or as a consequence of an attack by a weapon of mass destruction. An insurrection or an attack by a weapon of mass destruction/effect represents the previously defined "extraordinary" circumstance. DoD, by direction of the President, may become the lead federal agency in stabilizing such a crisis. All other federal agencies employed, including the DHS, would be operating in a supporting role. In this extraordinary circumstance, the Secretary of Defense would assume control of operations based on the restriction that the HSA 2002 imposes on the Secretary of Homeland Security. DoD would remain the lead federal agency only long enough to bring stability to the situation, transferring lead agency responsibility to either the DHS or some other agency, as directed by the President.

While providing traditional military assistance to civil authorities for emergency or limited scope operations, DoD places military assets under the operational direction of a lead federal agency. Consolidating the Federal Emergency Management Agency, the U.S. Border Patrol, the U.S. Customs Service, and the Immigration and Naturalization Services under the DHS casts a wide net across federal agencies which traditionally seek DoD assistance. Respecting the legalities on use of federal military assets—specified in the Posse Comitatus Act, the Stafford Act[24] and the Economy Act[25]—the DHS must centrally generate requests for DoD assistance. Developing this centralized process presents challenges to the DHS, given the experiences each subordinate activity brings with it upon consolidation. A formal memorandum of agreement between the Secretaries of Defense and Homeland Security should establish the broad guidelines for the types of support required, the channels

through which to request support, and metrics for determining the degree and duration of support. Such arrangements provide a common point of reference for both departments, increasing responsiveness and reducing potential friction created by the "fog" normally associated with crisis or catastrophic events.

A common error of federal agencies in seeking DoD support for civil authorities has been undue specificity in their requests for certain types of equipment and manpower. Such specificity frequently leads to delayed response or unnecessary negotiations to clarify actual requirements. The DHS should generalize the tasks or missions and thus permit DoD the latitude to conduct mission analysis and determine troops/equipment-to-task requirements.

Processing requests for military assistance to civil authorities follows a well-defined path within DoD channels. DoD Directive 3025.15 articulates this process.[26] However, the execution of those requests, at times, entails a cumbersome command and control process between the DoD and the supported federal agency. Two actions by the DoD will streamline the support process: first, the activation of USNORTHCOM, as the Department's operational command for supporting homeland security requirements; and second, Congress's approval of the Department's request for an Assistant Secretary of Defense for Homeland Defense. This new assistant secretary, as a senior civilian political appointee, will provide policy direction, coordination and oversight of all departmental efforts related to homeland security.

Within the hierarchy of DoD, this new assistant secretary is subordinate to the Under Secretary of Defense for Policy. This subordination should not, however, prevent the new assistant secretary from coordinating either internally to DoD (including with USNORTHCOM); or externally to DoD, with respect to the DHS. In fact, this assistant secretary should have a statutory arrangement with USNORTHCOM similar to that which the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict has with U.S. Special Operations Command.[27] Such an arrangement would permit a greater degree of civilian oversight and support. Furthermore, the DoD and the DHS should establish direct links between the Assistant Secretary of Defense for Homeland Defense and the Under Secretaries for Border and Transportation Security

and for Emergency Preparedness and Response. Forging these links, despite the disparity in the federal hierarchical "rank" structure, would create an unambiguous formal connection between the departments. This formal connection would become the foundation for bilateral actions and interagency coordination conducted with either the NSC or the HSC. It also would demonstrate that the relationship between the DoD and the DHS represents a critical requirement for the security of the U.S. homeland.

Within the context of this emerging relationship, a potential source of friction exists over determining whether the DHS should coordinate directly its support requests with USNORTHCOM. Based on the preceding discussion, the simple response should be "no." Currently, Secretary Tom Ridge agrees that DoD should retain control over USNORTHCOM's actions (see endnote 17). However, it is essential that a common perspective and channels of communications exist among these organizations. By exchanging liaisons officers, the DHS, the DoD, and USNORTHCOM would facilitate coordination and understanding of departmental capabilities, limitations, and needs. The presence of liaison officers would also aid in identifying and resolving contentious issues before they become critical vulnerabilities.

In sum, abiding by the legal constraints on the use and control of military assets, developing well-thought-out memoranda of agreement that are flexible and adaptive to current and future needs, and exchanging liaison officers between the DHS and DoD, including USNORTHCOM, would represent significant steps towards effective interdepartmental cooperation and reduction of a critical vulnerability. These recommended steps also serve as a foundation for addressing the next two potential critical vulnerabilities.

Intelligence Sharing.

Intelligence is the bedrock for successful anticipation and prevention of future terrorist attacks. It is neither a stand-alone activity nor the domain of any single federal agency. Information acquired from multiple sources—local, state, national, foreign, and

law enforcement—must be analyzed, fused, and translated into predictive intelligence products to permit specific actions that prevent future terrorist attacks. The essential component in this cycle is the sharing of both raw information and refined intelligence products. This presents an immediate requirement for both the DoD and the DHS to establish procedures to affect this sharing. These procedures must satisfy statutory requirements, national strategies, and the organizational interconnectivity of purposes of both departments. Getting these procedures right requires a priority of effort and a willingness to break from institutional prejudices.

DoD supports numerous organic intelligence activities—the National Security Agency, Defense Intelligence Agency, National Imagery and Mapping Agency, National Reconnaissance Office, and individual Service Intelligence organizations. The Department both acquires and exploits intelligence, supporting its wartime missions and counterintelligence requirements. In the current strategic environment, this intelligence not only supports on-going and future military operations, but also helps identify and prevent terrorist attacks within the homeland. The challenge within the intelligence community, and especially for DoD, is to determine "what to share" and "how to share." Failure to get this right would create a clear and indisputable critical vulnerability.

Section 201 of the HSA 2002, requires all federal agencies to provide information and intelligence products to the DHS for analysis in order to: "(a) identify and assess the nature and scope of terrorist threats to the homeland; (b) detect and identify threats of terrorism against the United States; and (c) understand such threats in light of actual and potential vulnerabilities of the homeland." Historically, intelligence sharing among federal agencies has been weak; it was also a significant factor in the failure to identify and prevent the September 11 terrorist attacks.

Sharing intelligence raises three key issues: first, DoD must determine what information is relevant to homeland security, as opposed to other nondomestic and foreign national defense issues; second, both departments must address the current intelligence classification system, which hinders release of critical predictive intelligence products; and third, both departments must establish organizational linkages to support the intelligence sharing

process.[28]

Determining the information and intelligence requirements that support the DHS's mission will be a continuous process. The NSHS and the statutory requirements of the HSA 2002 provide some direction, but the specifics require continual refinement according to current and anticipated demands. Without further guidance, as the DHS becomes operational, it is possible that it will possess less information than it deems essential for mission requirements. Without more specific guidance, DoD will most likely only share intelligence it deems pertinent to homeland security (as opposed to intelligence with broader national security implications), citing sensitivity of its intelligence and the need for operational security. The need to protect the methods and sources used to collect and corroborate the data often restricts the distribution of intelligence products, even for legitimate reasons. The passing of intelligence products to a new and untested agency will require significant safeguards to protect the information, methods and sources from which the information was acquired.[29]

The expectation that intelligence, whether from DoD or other agencies, will be readily distributed is at best, wishful thinking. This is not to imply a deliberate effort by any agency or department to circumvent the law. It is, however, an acknowledgement that intradepartmental culture influences interdepartmental behavior and contributes to distrust among agencies. This distrust, and its intradepartmental cultural roots, represents an obstacle that departmental leaders must reduce. For the Central Intelligence Agency and the intelligence agencies within DoD, the inadvertent release of sensitive information may jeopardize current or future operations. While this may represent a reason not to share or to limit the extent of information provided, protecting the U.S. homeland, while combating terrorism, is a vital security interest and argues for providing the DHS with such information.

To facilitate this sharing process, both departments should jointly determine the types of information required—including both raw and refined products—and from which collection platforms they are to come. By defining parameters—which may include targeting specific individuals and organizations outside the borders of the nation and placing a priority of collection on those requirements—

DoD can integrate requirements within its own collection plan, thereby reducing duplicity and stress on the system. In the long run, the ability of the two departments to agree on parameters and establish their own coordination system is much preferred to having Congress legislate such specifics. The use of a common secure information sharing network, analysts sensitized to both national and homeland security requirements, and the exchange of liaison officers is critical to the rapid transfer and synthesis of information and intelligence.

Inherent in the information determination and sharing process is the need to address the current classification system for relevance to homeland security. The unauthorized disclosure of national intelligence products could cause severe and potentially irreparable harm to the nation. This places both the DoD and the DHS in a paradoxical situation. Predictive intelligence, essential to implementing defensive or preventive measures, potentially may not be distributed due its security classification and/or the lack of security clearance of the intended recipients. Yet, one of the statutory purposes of the DHS is to assess intelligence and provide warning to national, state, and local agencies. To meet this requirement, the DHS must develop the means to declassify or sanitize intelligence effectively, making it both available and useful to those at the appropriate implementing levels. Establishing a homeland security classification system is critical to providing warning and vulnerability assessments to the appropriate federal, state, or local officials.

The establishment of a homeland security classification system for information and intelligence, discussed shortly after the stand-up of the Office of Homeland Security in October 2001, ended without a viable system.[30] Perhaps it is time to reassess this idea. The necessity of passing intelligence information through the DHS network is essential. Beyond the current Homeland Security Advisory System, the DHS must be able to use the contents of these predictive products, regardless of their classification, to initiate more specific preventive homeland security measures. The cooperation of DoD (and other affected agencies such as the CIA), must result in a system which jointly sanitizes and assigns an appropriate homeland security classification code to pertinent classified intelligence.

Such a system would provide both a disciplined approach to the amount and type of intelligence distributed, keyed to a "need-to-know" requirement, and ensure protection of the most sensitive aspects of intelligence from unauthorized disclosure. The alternative is to continue to rely upon the current classification system. But that would require thousands of federal, state, and local individuals who support homeland security requirements, to undergo security investigations in order to meet current requirements. The number of personnel who might have a homeland security "need-to-know" would overwhelm an already struggling Defense Investigative Service. However, by establishing a homeland security specific reclassification process and coordinating product contents with the DoD, the DHS could assess threats, determine vulnerabilities, and provide predicted targeted warning of potential attacks to the appropriate level. The specifics of such a system and the details of the appropriate translation of classifications are beyond the scope of this chapter. Yet, the interagency coordination process must address the concept of a homeland security specific classification system. The NSC and the HSC should both approve the resulting intelligence sharing methodology. From a strategic perspective, such an effort is an essential step in enabling the DoD and the DHS to support both statutory and strategy driven requirements cooperatively, while simultaneously conducting their independent mission requirements related to national and homeland defense.

Coordinating the requirements of determining what information to share and how to address the classification of the information should rest on specific organizational offices within each department. The HSA 2002 establishes an Under Secretary of Homeland Security for Information Analysis and Infrastructure Protection, whose responsibilities include acquisition and analysis of intelligence and comprehensive vulnerability assessment. Additionally, the National Defense Authorization Act for Fiscal Year 2003 authorized DoD's request for a new under secretary position: the Under Secretary of Defense for Intelligence. Though this act requires that the DoD define the mission and organizational structure of this new office to Congress, including the relationship with various internal departmental offices and the Departments' intelligence gathering activities, it does not address the need for a relationship with the DHS. This oversight is

unquestionably a strategic error, but one easily corrected. The DoD, as part of its response to the Congressional requirement, should address the implied, but strategically essential connection, between the two departments' respective under secretaries.[31] Codifying this relationship, based on the requirement to share intelligence for homeland security, the DoD and the DHS can meet statutory and strategy driven national and homeland security obligations and create the conditions to eliminate a critical vulnerability. The need for this codification further demonstrates that the relationship between the DoD and DHS is a critical requirement for effective homeland security. It also provides a template for addressing the third potential critical vulnerability.

Funding of Homeland Security Related Requirements.

Having budget authority conveys significant bureaucratic power within the federal government. In Fiscal Year 2004, the DoD projects a budget of over $380 billion and the DHS projects approximately $36.2 billion. Until recently, federal budgeting has been both a finite and a "zero-sum" process; in essence, for every increase in one department's budget, other departments or agencies generally experience a decrement. The funding of both departments for homeland security requirements and corresponding technological research and development will create friction, as each department commits resources to support its specific programs. Despite the Bush administration's willingness to engage in deficit spending to wage the war on terrorism, funding for homeland security and national security requirements remains finite. Friction, created by bureaucratic maneuvering to increase departmental budgets, is a critical vulnerability that the departments must avoid.

The broad objectives and numerous ambitious programs contained within the NSHS, and supporting statements within the NSS, beg the obvious concern of how to fund these programs, while simultaneously maintaining funding for other critical federal programs, including national defense. From a macro-perspective, this is not entirely a specific concern of the DoD. However, a closer

examination of the interrelations among requirements indicates that the DoD and the DHS must address such specific areas as: (1) transfer of technology and equipment that could support homeland security; (2) improving first responder capabilities: and (3) reimbursement for supporting DHS specific missions (i.e., military assistance to civil authorities). The first two areas, though implied in the NSHS, are specifically addressed in the National Defense Authorization Act of Fiscal Year 2003. The Stafford and Economy Acts—the legal basis by which one federal department provides support for another and how they are reimbursed—addresses the third area. The DoD has significant experience under both acts of providing support to and receiving reimbursement from various federal agencies for military assistance to civil authorities. However, the DHS's developing operational structure and lack of institutional processes for addressing reimbursement issues, notwithstanding the experiences of its subordinate agencies before their transfer to the department, may create friction with the DoD. The rigorous application of the Stafford and Economy Acts and development of memoranda of agreements will reduce or eliminate such friction. Under no circumstances should reimbursement issues affect execution of vital homeland security missions.

Some of the technologies being developed for improving soldier and unit capabilities on the battlefield have direct application—i.e., dual-use—in homeland security. These DoD funded capabilities overlap with many of the DHS responsibilities. Examples include chemical and biological identification technology, protective equipment, decontamination equipment, and common communications devices. DoD by necessity is at or near the forefront of many of these technologies. For DoD, these technologies and capabilities are essential to support and conduct combat operations in environments where weapons of mass effects may exist. Although the transfer of these and other related technologies and capabilities would benefit the DHS and the first responder community, the DoD should not have to cede complete control of this effort or unilaterally fund this research and development without a cost-sharing agreement. Though the DHS has a statutory obligation to invest in, develop, and procure common equipment to support first responder capabilities, the DoD must also conduct research, development, and

acquisition of similar or identical capabilities to protect soldiers on the battlefield. Determining exact costs and shared responsibilities is beyond the scope of this chapter. However, the DoD and the DHS should establish a specific relationship to address these areas, assess the associated financial costs, determine if efficiencies are possible, and coordinate essential research, development and acquisition requirements and strategy.

To facilitate this recommendation, the under secretaries from each department whose primary duties include responsibility for oversight of technology development and acquisition, should establish a formal relationship. For the DHS, this responsibility falls to the Under Secretary for Science and Technology, and for the DoD, it falls to the Under Secretary for Acquisition, Technology, and Logistics. It is likely that at least two other subordinate offices within the DoD need to be involved in coordinating these activities, the new Assistant Secretary of Defense for Homeland Defense and the Assistant Secretary of Defense for Command, Control, Communications and Intelligence.

As with the sharing of intelligence and establishing boundaries for the use of military assets, the establishment of direct organizational links between these officials can preempt potential problems. Though not specifically required by strategy or statute, the formal articulation of these relationships in memoranda of agreement can ensure a unity of effort. However, the specifics of funding may become a significant point of friction between departments and could ultimately require either a presidential directive (issued through the Office of Management and Budget) or Congressional intervention, as part of the normal budget process. Solving funding issues either bilaterally or through the interagency process is in the national interest, as well as each agency's interests. Failure to resolve these issues may foster continuous friction between the departments and create a critical vulnerability. This vulnerability could manifest itself in a lack of first responder or soldier preparedness to confront the consequences of a future terrorist attack. The results would transcend bureaucratic politics and directly affect the lives of soldiers and first responders, particularly if use of weapons of mass destruction/mass effects are involved.

The DoD and DHS must cooperatively address the potential critical vulnerabilities presented by the use of military force, the sharing of intelligence, and the funding of homeland security requirements. Failure to do so, either by adopting or modifying the recommendations presented, opens the nation to attack. If bi-lateral agreements cannot resolve these critical vulnerabilities, the departments must address the vulnerability either to the NSC or the HSC for resolution.

RESOLVING CRITICAL VULNERABILITIES: THE NATIONAL SECURITY COUNCIL VS. THE HOMELAND SECURITY COUNCIL

"Defending our Nation against its enemies is the first and fundamental commitment of the Federal Government."[32] This statement reflects the fundamental aspect of the federal government's responsibility and underscores the DoD and the DHS's relationship as a critical requirement for homeland security. It also provides an overarching means for addressing current and future critical vulnerabilities. Both departments undoubtedly will endeavor to do what is best for the nation; however, each department will have differing approaches to fulfilling their portion of this commitment. Their approaches may, as an unintended consequence, create potential vulnerabilities.

The creation of the DHS will generate friction within the federal bureaucracy. While some friction can be healthy to organizational development and interorganizational relations (e.g., by ensuring constant attention to organizational mission objectives), friction can also, in the Clausewitizian sense, lead to less positive outcomes. Identifying and addressing potential friction points facilitates both departments' prospects for mission successes, creates conditions to eliminate critical vulnerabilities, and fosters a seamless cooperative effort to protect the nation's homeland and national centers of gravity.

The NSC and HSC are the two presidential decision forums for coordinating interagency actions and developing national

policy. They also represent the strategic "way" to reduce the critical vulnerabilities described in this chapter. Each Council has its own purpose, but their scope of concerns are beginning to overlap given the increasing interrelatedness of national and homeland security issues.

The National Security Act of 1947 established the NSC with the stated purpose to:

> (a) . . . advise the President with respect to the integration of domestic, foreign, and military policies relating to the national security so as to enable the military services and the other departments and agencies of the Government to cooperate more effectively in matters involving the national security.[33]

For over 50 years, this council has served as the primary conduit of integration and interagency coordination affecting domestic and foreign policy related to national security, including domestic security considerations within the United States. The council's organizational structure is flexible, reflecting each president's policy and decision making style. The current administration has structured its council around regional and functional policy coordinating committees to provide recommendation to a Deputy's Committee, which in turn refines the issues for decision by the Principals Committee. Inherent in this deliberative staffing process is the need to assess risks to the national security and report or make recommendations to the President accordingly.

The HSC, established by Presidential Executive Order 13228 on October 8, 2001, and provided statutory recognition in the HSA 2002, parallels the function and structures of the NSC, but with a narrowly defined focus on homeland security and the prevention of terrorism. The HSC:

> . . . shall be responsible for advising and assisting the President with respect to all aspects of homeland security. The Council shall serve as the mechanism for ensuring coordination of homeland security-related activities of executive departments and agencies and effective development and implementation of homeland security policies. [34]

The NSC has four statutory members: the President, Vice President, Secretary of Defense, and Secretary of State; the Chairman

of the Joint Chiefs of Staff is the council's statutory military advisor. By contrast, the HSC has five statutory members: the President, Vice President, Secretary of Defense, Attorney General, and Secretary of Homeland Security; it does not have a statutory military advisor. The omission of two key personnel, the Secretary of State and Chairman of the Joint Chiefs of Staff, significantly narrows the focus of the HSC.[35] The Secretary of State attends meetings only if there are matters pertaining to his area of responsibility and the Chairman of the Joint Chiefs (CJCS), initially not permitted to attend, eventually received a standing invitation to all meetings.

In the aftermath of the September 11 terrorist attacks, the creation of the HSC initially frustrated DoD, vis-à-vis the traditional role of the NSS. The department's frustrations resulted from the HSC's "growing pains" as it struggled to become operational in the midst of a national crisis. These initial growing pains revealed three HSC shortfalls: (1) haphazard interagency coordination processes; (2) lack of refined internal operating procedures; and (3) couching national issues under the rubric of "homeland security" without a clear definition of homeland security. The omission of military representation, specifically the CJCS, as either a formal member or advisor to the HSC, further frustrated the department. This lack of formal military representation denied relevant military advice to the President and the Secretary of Defense during the initial HSC Principals Committee meetings. This military advice was also lacking in the numerous deliberations in policy coordinating committees and the deputy's committee meetings. Currently, the CJCS, or his designated representative, has a standing invitation to all HSC meetings, including deputy and policy coordinating committee meetings. However, there has been no amendment to the executive order or the HSA 2002 to reflect this arrangement. This organizational flaw is significant; it stands in stark contrast to the NSC where the CJCS is the statutory principal military advisor to the council. The statutory omission of the CJCS and the Secretary of State from HSC deliberations, both critical advisors to the president, suppresses consideration of broader national policy implications on homeland security decisions.

It is important to note, that in accordance with Section 102 (d) of HSA 2002, "the Secretary [of Homeland Security] may, subject to

the direction of the President, attend and participate in meetings of the National Security Council." On the other hand, it ensures that homeland security equities are represented during NSC discussions and formulation of national policy. However, simultaneous memberships by the Secretaries of Defense and Homeland Security on both councils, creates inevitable friction in determining how and where to address matters related to homeland security within the interagency process.

The creation of a separate interagency forum for addressing homeland security issues may at first seem appropriate, particularly given the failure of U.S. strategic defenses to detect, identify, and prevent the attacks of September 11, 2001. However, the NSC coordinated and responded to all national security related issues, as defined by Presidential Executive Order 12656 (November 18, 1988), prior to the establishment of the HSC. One could reasonably interpret these issues, termed "national security emergencies," to include terrorism. A national security emergency, as defined by Executive Order 12656 is:

> . . . any occurrence, including natural disaster, military attack, technological emergency, or other emergency, that seriously degrades or seriously threatens the national security of the United States. Policy for national security emergency preparedness shall be established by the President. Pursuant to the President's direction, the National Security Council shall be responsible for developing and administering such policy.[36]

The advantage of addressing all national security related matters within the NSC, as defined by its the charter and within the parameters of the executive order above, ensures an integration of foreign and domestic considerations. Today this is especially pertinent, given the increasing effects of globalization. Few actions, whether domestic or foreign, occur in isolation. Actions or decisions made in support of homeland security have both direct and indirect impact on foreign affairs and vice versa. The creation of a parallel structure for homeland security has potential for bifurcating both the decision process and consideration of potential consequences. At the very least, maintaining two distinct decision forums requires narrowly defined, homeland security specific actions to be separated

from those of a broader national security nature. Given the interconnectivity of the NSS and NSHS, and the need for coordinated efforts by the DoD and the DHS, making these clear distinctions continues to be a difficult process. For DoD, participating at all levels in both councils requires a constant effort to reconcile and balance national security related actions with those of homeland security. This effort will become even more strenuous and essential once the DHS becomes operational. Fortunately, to date, both councils appear to be working in tandem; however, it is too early to assess the long-term implications of maintaining parallel forums.

Within the context of these parallel forums, selecting the specific forum for interagency coordination has implications for each department. For DoD, the NSC offers the better strategic forum for obtaining balanced decisions affecting its domestic and foreign security commitments. By contrast, the DHS would most likely prefer the HSC's primary narrow domestic focus, with secondary considerations for the broader foreign policy implications.

Citing specific unclassified examples explaining why the DoD should prefer to take issues to the NSC rather than the HSC is difficult, given the sensitivity of the specific actions and security concerns of both forums. However, consider the following scenario:

DoD directs through its annual Contingency Planning Guidance that each Geographic and Functional Combat Commander, using the Deliberate Planning Process, develop specific contingency plans, operations plans or functional plans for their specific area of responsibility. Many of these plans require interagency coordination to ensure national supportability. The specifics of the requested interagency support are defined in Annex V, entitled Interagency Coordination, of each plan.[37] In compliance with the Contingency Planning Guidance, U.S. Northern Command, as well as U.S. Pacific Command and U.S. Southern Command, both geographic combatant commanders with responsibilities for supporting homeland security, must develop individual plans with supporting Annex V's. Coordinating these annexes requires the DoD to submit them to either the NSC or the HSC. Logic would dictate submission to the HSC; however, the DoD is unlikely to do so. Though the focus of each plan is to support homeland security, there are other broader national security implications to be considered: specifically,

the strategic impacts of designating forces (air, land and maritime, including requests for Coast Guard assets) to respond to either "extraordinary" or "emergency" circumstance requirements, while simultaneously conducting or preparing to execute other contingency operations in support of the NSS. This does not imply that the domestic aspects of these annexes should be ignored; rather, these annexes should be coordinated with consideration to foreign policy concerns by the NSC. By doing so, DoD would obtain an integrated and balanced foreign and domestic assessment to support each combatant commander's needs. Further, since the Secretary of Homeland Security, is an invited member of the NSC, he would be expected to use the Office of Homeland Security to coordinate review and comments on these annexes. He would submit this review, with its specific emphasis on homeland security, as his response to the NSC staff. Using the staffing process of the NSC, DoD insures the most comprehensive review of these annexes. As long as America remains a nation at war, conducting simultaneous offensive and defensive actions, the NSC is the one best forum to conduct interagency coordination given its holistic view of foreign and domestic strategic choices and risks.

Parallel decision forums, with overlapping memberships but distinctly different objectives, present both departments, and the interagency in general, with a challenging problem of balancing domestic needs with on-going foreign commitments. The HSC, after just over 18 months of operations, is still maturing. It has, however, made significant strides and has become, by force of the President's directive, an organization that is gaining respect within the federal bureaucracy. However, in the months since Congressional confirmation of Secretary for Homeland Security Tom Ridge, the President has not appointed a new Assistant to the President for Homeland Security. Absent such an advisor to direct the Office of Homeland Security and the day-to-day actions of the HSC, it remains to be seen whether this council will continue as a separate organization. It is likely, given the increased blurring of national and homeland security matters, the inclusion of the Secretary for Homeland Security on the NSC (at the President's determination), and the exclusion of the Secretary of State from the HSC (unless invited), that the Office of Homeland Security and the functions of

the HSC may soon become subordinate to the NSC.

In the interim, determining how and where to address contentious issues will remain a matter of deciding relevance: Is the issue of broader relevance to national security or is it more focused on homeland security and preventing terrorism? The forum provides the context from which the presidential decision is both debated and rendered. For the DoD, this will require a case-by-case determination; for the DHS, the matter is more clearly defined.

CONCLUSION

> We have seen the problem and it is us![38]

To comply with Secretary Rumsfeld's epigraph at the beginning of this chapter and in seeking to work with the DHS to provide for the nation's defense, the DoD must now put deeds behind words. As the more established and senior partner in this strategic relationship, the DoD must assume greater responsibility for developing an effective relationship with the DHS. In seeking to create this relationship, both departments must acknowledge a harsh reality of organizational culture and behavior: *"We have seen the problem and it is us."* That is, organizations frequently place obstacles in their own path. However, organizations also have the ability to remove those obstacles, and this is clearly applicable to the critical vulnerabilities identified within this chapter. These vulnerabilities are not insurmountable. The vulnerabilities presented can be resolved by "us"—that is, the leadership of both the DoD and the DHS.

Homeland security, as a critical capability, offers fundamental protection to the nation. It represents a cohesive strategic defense permitting the nation to execute its national strategies while simultaneously prosecuting the war on terrorism. Further, there is little doubt that an effective relationship between the DoD and the DHS represents a critical requirement that enables homeland security as a critical capability. More than any two other departments within the federal government, the DHS (charged by law and the NSHS to protect the nation's homeland from terrorism) and the DoD (charged by law and the NSS to not only defend this nation but to

concurrently fight and win the nation's wars), must achieve a unity of effort. Anything less creates critical vulnerabilities and imperils the nation's center of gravity.

The emerging relationship between the DoD and the DHS requires constant efforts to identify and defuse potential bureaucratic tensions. DoD is still defining its roles, missions, and relationships relative to increased homeland security requirements, as well as assessing how it must interact with the DHS. This chapter has sought to promote a greater understanding between departments and to help inform the development of this relationship. The recommendations offered may or may not reflect any ultimate decisions. The dynamics of the current strategic environment, including DoD's transformation efforts and the organizational challenges of standing-up the DHS, all serve to influence the final outcome.

Finally, a strong, cooperative relationship between the DoD and the DHS—focusing on the protection of the American homeland, while avoiding the types of rivalries that have traditionally encumbered the bureaucratic process—will ensure the long-term security of the nation. As President Bush declared on September, 2001, " The conflict was begun on the timing and terms of others. It will end in a way, and an hour, of our choosing."[39]

When this war on terrorism does end, it is certain that this new focus on homeland security will endure, both as a permanent condition for the nation and as a permanent mission for both the DoD and the DHS. Properly nurtured, the resulting relationship will ensure that, no matter who the enemy is or how he attempts to attack this nation, there will be fewer critical vulnerabilities to be exploited in the nation's national security armor.

ENDNOTES - CHAPTER 10

1. George W. Bush, "Address to the Joint Session of Congress and the American People," September 20, 2001; available from *http://www.whitehouse.gov/news/releases/2001/09/print/20010920-8.html*, Internet, accessed September 22, 2002.

2. Department of Defense, "Joint Publication 5-00.1 Joint Doctrine for Campaign Planning," Washington, DC: Department of Defense, 25 January 2002,

p. II-6. Center of Gravity: "Those characteristics, capabilities, or sources of power from which a military force derives its freedom of action, physical strength, or will to fight." (Note: Our national will is clearly a source of our national power and strength in the war on terrorism and, as a strategic center of gravity, must be protected from attack.)

3. *Ibid.*, p. II-7. Critical Capability: "Those adversary capabilities that are considered crucial enablers to the adversary's center of gravity to function as such and essential to the accomplishment of the adversary's assumed objective." (Note: though this definition is focused on the analysis of an adversary's capabilities, this concept applies equally to determining our own strategic critical capabilities, requirements and vulnerabilities as critical factors linked to our strategic center of gravity.)

4. *Ibid.*, p. II-7. Critical Requirement: "Those essential conditions, resources, and means for a critical capability to be fully operational."

5. *Ibid.*, p. II-7. Critical Vulnerability: "Those aspects or components of the adversary's critical capabilities (or components thereof) which are deficient, or vulnerable to neutralization, interdiction, or attack in a manner achieving decisive or significant results, disproportionate to the military resources applied."

6. This thought, while not original, has been much debated and discussed in various journals and professional forums. It is not possible to attribute this comment to a specific source or sources.

7. George W. Bush, "The National Strategy for Homeland Security," Washington, DC: The White House, July 2002, Introduction.

8. *Ibid.*, p. vii.

9. *Ibid.*, p. viii.

10. This assessment is based on the public statements in various news media and congressional debates regarding the proposed budget for the DHS and the estimate of the number of federal employees affected by the merger of the 22 specified agencies. The assessment of the DHS budget in comparison to other federal agencies is based on the President's FY2004 budget submitted by the Office of Management and Budget; available from: *http://www.whitehouse.gov/omb/budget/fy2003/pdf/hist.pdf*, Internet, accessed February 3, 2003.

11. "Homeland Security Act of 2002." Public Law 107-296. sec. 101, p. 8, November 25, 2002.

12. *Ibid.*

13. Donald Rumsfeld, Testimony to House Select Committee on Homeland Security, July 11, 2002, accessed from: *http://www.defenselink.mil/speeches/2002/s20020711-secdef.html*, Internet, accessed September 22, 2002.

14. George W. Bush, "The National Security Strategy for the United States of America," Washington, DC: The White House, September 2002, p. 30.

15. *Ibid.*

16. *Ibid.* (Note: the ability to integrate intelligence is not just a Department of Defense function but will require the coordination of several federal agencies including the CIA.)

17. The National Security Strategy for the United States of America does not specifically identify U.S. Northern Command by name; rather it references "a new unified command" (see page 6). When the National Security Strategy was being drafted, the designation of U.S. Northern Command, as part of Unified Command Plan 2002, was pending Presidential approval.

18. On January 22, 2003, he was sworn in as the first Secretary of the Department of Homeland Security by Vice President Richard Cheney.

19. Each strategy, while focused on a specific aspect of national or homeland security, are all complementary and interconnected to ensure security of the nation. The order presented does not reflect any specific status or hierarchical precedent, rather, date of publication. A brief summation of these supporting strategies follow are:

> "The Quadrennial Defense Review," September 2001. This review, required every four years by Congress, sets the new defense strategy that embraces uncertainty and contends with surprise. This review is premised on the idea that to be effective abroad, America must be safe at home. The defense strategy acknowledges a new emphasis on the unique operational demands associated with the defense of the United States and restores the defense of the United States as the Department's primary mission. The strategy is therefore built around four key goals that will guide the development of U.S. forces and capabilities, their deployment and use: (1) Assuring allies and friends of the United States' steadiness of purpose and its capability to fulfill its security commitments; (2) Dissuading adversaries from undertaking programs or operations that could threaten U.S. interests or those of our allies and friends; (3) Deterring aggression and coercion by deploying forward the capacity to swiftly defeat attacks and impose severe penalties for aggression on an adversary's military capability

and supporting infrastructure; and (4) Decisively defeating any adversary if deterrence fails. A central objective of the review was to shift the basis of defense planning from a "threat-based" model that has dominated thinking in the past to a "capabilities-based" model for the future. This capabilities-based model focuses more on how an adversary might fight rather than specifically whom the adversary might be or where a war might occur.

"The National Strategy to Combat Weapons of Mass Destruction," December 2002. An effective strategy for countering WMD, including their use and further proliferation, is an integral component of the National Security Strategy of the United States of America. As with the war on terrorism, the National Strategy for Homeland Security, and the new concept of defense, the U.S. approach to combat WMD represents a fundamental change from the past. The three pillars of this national strategy are: (1) Counter-proliferation to Combat WMD Use; (2) Strengthened Nonproliferation to Combat WMD Proliferation; and (3) Consequence Management to Respond to WMD Use. Four cross cutting enablers for these pillars are: (1) intelligence collection and analysis on WMD, delivery systems, and related technologies; (2) research and development to improve our ability to respond to evolving threats; (3) bilateral and multilateral cooperation; and (4) targeted strategies against hostile states and terrorists.

"The National Strategy for Combating Terrorism," February 2003. This strategy outlines efforts in the nation's war against global terror and complements both the National Security Strategy and the National Strategies for Homeland Security. The strategy establishes critical goals for strengthening America's security against the threats of the 21st century and describes efforts to disrupt and identify potential terrorist attacks before they take place.

"The National Strategy for Securing Cyberspace," February 2003. This strategy aims to ensure that Internet disruptions are infrequent, of minimal duration, manageable, and cause the least damage possible. The plan depends on coordinated effort from federal, state and local governments, the private sector, and citizens. The objective is to reduce the nation's vulnerability to debilitating attacks against our critical information infrastructures or the physical assets that support them.

"The National Strategy for the Physical Protection of Critical Infrastructure and Key Assets," February 2003. This strategy

includes provisions for protecting the roads, industrial plants, and energy systems that make up the country's critical infrastructure. In a foreword to the document, President George W. Bush writes that it "provides a unifying structure, defines rules and responsibilities, and identifies major initiatives that will drive our near-term protection priorities." The document outlines what government and the private sector should do to safeguard the country's vital assets. It calls on business sectors to share information on threats while promising federal guidance to help assess the vulnerability of key infrastructure components.

"The National Drug Control Strategy," February 2003. This strategy is intended to reduce the usage of and flow of drugs into this country. It establishes three priorities: (1) stop drug use before it starts; (2) heal America's drug users; and (3) disrupt the drug market. While focusing heavily on demand reduction, the strategy also recognizes the importance of eroding the economic base of the drug trade. Every step that makes the drug trade more dangerous and less profitable for drug dealers is a step toward "breaking" the international and domestic market for illegal drugs. These efforts are complementary to both national security and homeland security strategies.

"The National Military Strategy for the United States of America (Draft)," February 2003. This strategy, informed by the Quadrennial Defense Review, is the Chairman of the Joint Chiefs of Staff's guidance to Service and Combatant Commanders for employing joint military capabilities in support of the requirements of the National Security Strategy. The key pillars of the draft National Military Strategy are: (1) Protect the United States, Allies and Interests; (2) Prevent conflict and surprise attacks; and (3) Prevail against all adversaries. These three pillars horizontally support, through military efforts, the four tenets of the National Security Strategy: Assure, Dissuade, Deter, and Defeat.

20. A "dual-use" item refers to equipment that has application both for military and civilian uses. In this use, it refers to equipment designed to protect soldiers from the effects of weapons of mass destruction and which may also have application for first responders in support of homeland security missions. These items generally include nuclear, biological, and chemical protective equipment (i.e., protective clothing and gas masks, detection and decontamination equipment, and communications equipment). Creating items with dual use capability is cost effective and helps to standardize equipment and protective procedures across the first responder community. Dual use items also enhance interoperability among first responders and the myriad of supporting agencies from local through state

and federal levels.

21. "The Homeland Security Act of 2002," sec. 876, p. 110, November 25, 2002.

22. Department of Defense 3025-series Directives related to providing military assistance and military support to civil authorities for homeland security requirements under emergency or limited scope circumstances are: Department of Defense Directive 3025.1, "Military Support to Civil Authorities (MSCA)," dated January 15,1993; Department of Defense Directive 3025.12, "Military Assistance for Civil Disturbances (MACDIS)," dated February 4, 1994; Department of Defense Directive 3025.13, "Employment of Department of Defense Resources in Support of the United States Secret Service," dated September 13, 1985; Department of Defense Directive 3025.15. "Military Assistance to Civil Authorities," dated February 18, 1997; and Department of Defense Directive 3025.16, "Military Emergency Preparedness Liaison Officer (EPLO) Program," dated December 18, 2000.

23. "Crimes and Criminal Procedure Act." U.S. Code. Title 18, **sec. 1385.** The Posse Comitatus Act (PCA) states: "Whoever, except in cases and under circumstances expressly authorized by the Constitution or Act of Congress, willfully uses any part of the Army or the Air Force as a posse comitatus or otherwise to execute the laws, shall be fined under this title or imprisoned not more than two years or both." (Note: PCA is vague and subject to a wide range of legal interpretations; Congress has modified but never clarified the vagueness of the Act since its passage in 1878. PCA's original legal intent was to prevent local law enforcement officials from pressing federal troops/soldiers into posse service in the post-Reconstructionist South. PCA has consistently, but narrowly, been interpreted to preclude federal military forces from acting as a national police force or enforcing laws without express consent of the President or Congress. By Department of Defense Directive 5525.5 [Department of Defense Cooperation with Civilian Law Enforcement Officials], PCA also applies to the Navy and Marine Corps. PCA does not apply to the Coast Guard, which is both an armed force and a law enforcement agency with commensurate powers. PCA does not apply to the National Guard operating in a state active duty capacity but has been interpreted to apply when in a federalized status.) Available from: *http://www4.law.cornell.edu/uscode/18/1385.html*, Internet, accessed September 22, 2002.

24. "Robert T. Stafford Disaster Relief And Emergency Assistance Act," P.L. 93-288, as amended. The intent of Congress, by this Act, is to provide an orderly and continuing means of assistance by the Federal Government to State and local governments in carrying out their responsibilities to alleviate the suffering and damage which result from such disasters. Federal agencies may be reimbursed for expenditures under this Act from funds appropriated for the purposes of this Act. Any funds received by Federal agencies as reimbursement for services or supplies

furnished under the authority of this Act shall be deposited to the credit of the appropriation or appropriations currently available for such services or supplies. Available from *http://www.ohioema.org/robertt.htm*,Internet, accessed October 1, 2002.

25. "The Economy Act," U.S. Code. Title 31, sec. 1535, permits one agency (requiring agency) to use its appropriations to fund another agency (servicing agency) to supply, render, or obtain by contract supplies or services for the requiring agency. This essentially permits one agency such as Department of Defense to provide support to another federal agency and at the same time request reimbursement for providing such support. Available from: *http: //propertydisposal.gsa.gov/ResourceCenter/laws_regs_all/economy/economy.html, Internet,* accessed September 22, 2002.

26. Department of Defense Directive 3025.15, "Military Assistance to Civil Authorities," provides the specific channels, processes, and approval chain for civilian agencies to request federalized military assistance to civil authorities.

27. "The Armed Forces Act." U.S. Code. Title 10, sec 138. This Act provides that:

> The Assistant Secretary of Defense for Special Operations and Low Intensity Conflict . . . shall have as his [Secretary of Defense] principal duty the overall supervision (including oversight of policy and resources) of special operations activities (as defined in section 167(j) of this title) and low intensity conflict activities of the Department of Defense. The Assistant Secretary is the principal civilian adviser to the Secretary of Defense on special operations and low intensity conflict matters and (after the Secretary and Deputy Secretary) is the principal special operations and low intensity conflict official within the senior management of the Department of Defense.

Using this relationship as a template, the ASD for Homeland Defense should be given the same latitude in his relationship with U.S. Northern Command to support DoD's homeland security requirements; available from *http:// www4.law.cornell.edu/cgi-bin/empower*, Internet, accessed September 22, 2002.

28. DoD is only one of several intelligence gathering and using agencies that will be required to coordinate and share information with DHS. The FBI and CIA will be the focus of the majority of national and Congressional attention. Yet, DoD, with 80 percent of the federal intelligence budget and the substantial intelligence gathering assets, must work in close collaboration with the CIA to support national security efforts.

29. The concept of the DHS as a "new and untested agency" is not an original thought. Rather, it is one that has appeared in numerous articles addressing the challenges that the new department will face in establishing itself and in developing working relationships with other federal agencies. The concept addresses the relative newness of the organization, its mission, its internal processes, and the need for the majority of its personnel to confront the plethora of issues we now define within the rubric of homeland security.

30. This observation is based on personal experience while assigned as a strategic planner in Homeland Security Division, Joint Staff J-5 (Strategic Plans and Policy Division). The Homeland Security Classification system was discussed at HSC policy coordinating committee and deputies committee meetings. The subject was eventually dismissed as impractical due to the difficulties in sanitizing and reclassifying information for distribution.

31. "The Bob Stump National Defense Authorization Act For Fiscal Year 2003," sec. 137. This Act requires the Secretary of Defense to submit to congress a report on the establishment of the position of Under Secretary of Defense for Intelligence. This report must include the mission, organizational structure, relationships with the Under Secretary of Defense for Acquisition, Technology and Logistics and the Under Secretary of Defense for Policy and each of the intelligence components of the Department of Defense (NAS, DIA, NIMA, and NRO). It does not specify any specific requirement to address a relationship to Department of DHS.

32. Bush, "The National Strategy for Homeland Security," Introduction.

33. "The National Security Act 1947," U.S. Code., sec. 402. Available from *http://www4.law.cornell.edu/uscode/50/402.html*, Internet, accessed September 22, 2002.

34. George W. Bush, Executive Order 13228 of October 8, 2001. "Establishment of the Office of Homeland Security and the Homeland Security Council." Available from: *http://www.fas.org/irp/offdocs/eo/eo-13228.htm*, Internet, accessed September 22, 2002.

35. National Security Act of 1947, sec 101, states:

> The National Security Council is chaired by the President. Its regular attendees (both statutory and non-statutory) are the Vice President, the Secretary of State, the Secretary of the Treasury, the Secretary of Defense, and the Assistant to the President for National Security Affairs. The Chairman of the Joint Chiefs of Staff is the statutory military advisor to the Council, and the Director of Central Intelligence is the intelligence advisor. The Chief of Staff to the President, Counsel to the President, and the Assistant to the President for Economic Policy are invited to attend

any NSC meeting. The Attorney General and the Director of the Office of Management and Budget are invited to attend meetings pertaining to their responsibilities. The heads of other executive departments and agencies, as well as other senior officials, are invited to attend meetings of the NSC when appropriate.

Presidential Executive Order 13288 states:

> The membership of the Homeland Security Council: President, the Vice President, the Secretary of the Treasury, the Secretary of Defense, the Attorney General, the Secretary of Health and Human Services, the Secretary of Transportation, the Director of the Federal Emergency Management Agency, the Director of the Federal Bureau of Investigation, the Director of Central Intelligence, the Assistant to the President for DHS, and such other officers of the executive branch as the President may from time to time designate. The Chief of Staff, the Chief of Staff to the Vice President, the Assistant to the President for National Security Affairs, the Counsel to the President, and the Director of the Office of Management and Budget also are invited to attend any Council meeting. The Secretary of State, the Secretary of Agriculture, the Secretary of the Interior, the Secretary of Energy, the Secretary of Labor, the Secretary of Commerce, the Secretary of Veterans Affairs, the Administrator of the Environmental Protection Agency, the Assistant to the President for Economic Policy, and the Assistant to the President for Domestic Policy shall be invited to attend meetings pertaining to their responsibilities. The heads of other executive departments and agencies and other senior officials shall be invited to attend Council meetings when appropriate.

(Note: Section 901 of The Homeland Security Act of 2002 provides the Homeland Security Council with statutory recognition. The act designates only five members of the council—the President, the Vice President, the Secretary of Homeland Security, the Attorney General, and the Secretary of Defense—but enables the President to name other members as he sees fit. Though the Presidential executive order predates the Homeland Security Act of 2002, the council operates with the membership provided within the executive order.)

36. Ronald Reagan. Executive Order 12656: "Assignment of Emergency Preparedness Responsibilities," Washington DC: The White House, November 18, 1988; available from: *http://www.archives.gov/federal_register/executiveorders/1988.html*, Internet, accessed September 22, 2002.

37. Roger Corneretto, J7, Conventional War Plans Division, "War Plans Interagency Coordination," September 2002. The briefing highlights requirements of Annex V as a CJCS initiative required for all CJCS approved plans, and the NSC role was codified in November 1999 memorandum from then President Clinton to then Secretary of Defense Cohen. Annex V requirements serve three purposes:

> (1) part of a process by which we strengthen our ability to quickly and effectively respond to crises by ensuring integration of other instruments of national power into the Department of Defense deliberate planning process; (2) is the vehicle for CINCs to request interagency activities and lay the groundwork for the potential of coordinating with IOs, NGOs, and PVOs for participation. Obtaining coordination and integration to support the military objectives of the campaign; (3) articulates CINC's desires for entry and exit conditions for USG agencies during an operation." The briefing further states: An APNSA memo (24 April 2001) established four additional functional PCCs, including the Contingency Planning PCC (CP PCC). This PCC will manage the interagency process for reviewing Annex V's, produce political military plans, and plan for contingencies outside the deliberate planning cycle.

38. Colin Gray, *Modern Strategy*, Oxford, 1999, p. 358.

39. George W. Bush, "The National Strategy for Homeland Security," p. 5.

CHAPTER 11

INTEGRATED EMERGENCY MANAGEMENT: THE ROLES OF FEDERAL, STATE, AND LOCAL GOVERNMENT WITH IMPLICATIONS FOR HOMELAND SECURITY

Captain Albert F. Lord, Jr.

The events of September 11, 2001, ushered in a new era of threats to Americans. Terrorists struck without warning, and brought disaster to U.S. shores in their wake. The destruction of the World Trade Center, significant damage to the Pentagon, and introduction of anthrax into the U.S. Postal System demonstrated that Americans can quickly find themselves on the front lines of a war against terrorism. Beyond the physical damage, Americans have experienced the considerable economic and psychological impact of those terrorist actions.

How can America meet this new challenge and restore confidence in the ability of government to provide for the safety and welfare of its citizens? The war against terrorism will occur across the globe. The U.S. Government has already mobilized military, diplomatic, financial, and information resources to bring the perpetrators of 9/11 to justice and to establish a global security framework to prevent a reoccurrence of such attacks. A concurrent effort needs to occur within the United States to establish new relationships between the levels of government in order to bring available resources to bear. No doubt more resources are required. How can the collective efforts of the federal, state, and local governments across the United States work together effectively and efficiently to meet this new threat?

Integrated Emergency Management would provide the framework to allow government and nongovernment organizations to work together to prepare for, combat, and recover from terrorist attacks as well as other disasters. This concept allows for the unique competencies of each level of government to come to bear to respond effectively to disasters.[1] The federal government's role is to provide resources, expertise, and training to lower levels of government. The

states will perform such critical tasks as coordinating immediate action and providing consistent and quality response in their jurisdictions. The local governments know their citizens and immediate localities the best and can most effectively direct action and resources to those most directly affected. This lowest level of government has the most credibility with citizens and is key to effective response and recovery.

Since September 11, the federal government has taken two major steps to improve its ability to provide effective response to disasters. It has established the Department of Homeland Security (DHS) to provide a single, unified security structure that can provide protection against current threats, while providing sufficient flexibility to meet the unknown threats of the future.[2] Specified tasks for this new organization include managing federal response activities and helping to train and equip first responders. The establishment of the DHS is the largest reorganization of the federal government in over 50 years. This action consolidates the efforts of over 100 different government organizations under one cabinet-level secretary in order to provide optimum prevention, response, recovery, and mitigation of disasters in the continental United States. The second major federal initiative has been the establishment of the Northern Command of the Department of Defense (DoD). This new organization will provide military assistance to civil authorities when directed by the President, and the framework to coordinate making available the resources and technical knowledge of the defense establishment to local level communities when circumstances require. The challenge at every level of government has been to integrate and coordinate the efforts of those tasked with handling and responding to disasters. To be effective, each level of government must understand the unique roles and responsibilities of those charged with taking action or providing resources to deal with domestic disasters.

Integrated Emergency Management Definition and Framework.

Americans and their forefathers have been performing the functions of emergency management since before the founding of their nation. The passing of the Civil Defense Act of 1950 gave the federal government a central role in disaster management due

to the threat raised by nuclear war. The federal government terms the current concept of emergency management "comprehensive emergency management." As its name implies, this concept includes preparation, mitigation, response, and recovery from all types of hazards and emergencies. This represents an increased emphasis in making the entire nation's emergency infrastructure more responsive to major emergencies or catastrophes.

Comprehensive Emergency Management comprises three interrelated components[3]:

1. Targets all types of hazards. The nature of natural hazards and technological threats strongly suggests many of the same management strategies, techniques, and methods will be effective in responding to a wide range of situations.

2. Uses an emergency management partnership. The complex nature and potentially wide scope of modern disaster management requires a close partnership among every level of government and nongovernmental organizations, including the private sector and the public.

3. Features an "emergency lifecycle." Disasters require management actions over time. Management actions must match a lifecycle of occurrence. They include strategies to mitigate hazards, prepare for and respond to emergencies, and recover from their impact.

The characteristic of the last component of "comprehensive emergency management" suggests the time phasing of actions to deal with hazards. These four phases are mitigation, preparedness, response, and recovery. In every phase, governmental actions need to ensure the best possible posture to deal with the emergency. Mitigation includes those activities which serve to eliminate or reduce the chance of an emergency from occurring, or if it occurs, reducing its effects. Building codes, which mandate hurricane or tornado strength resistant materials and construction practices, represent an example of mitigation. Preparedness includes planning responses and allocating resources in case an emergency occurs. An

example would be the notification of an affected population and the provision of knowledge of those actions people need to take in order to deal with a prospective event. Response activities take place during or immediately after a disaster. These activities aim at the saving of lives and property, the provision of emergency assistance, and the reduction of the likelihood of secondary or follow-on casualties or damage. The final phase is recovery. It continues until life returns to normal. Restoring public services and providing financial aid would be examples of such actions. In large disasters, the recovery phase may extend for a considerable length of time, years perhaps.

Whereas "comprehensive emergency management" widens the scope of government at every level to include a range of potential emergencies, "integrated emergency management" represents a capstone concept involving each level of government with specific roles in disasters. The creation of the Federal Emergency Management Agency (FEMA) in 1979 consolidated five federal agencies and initiated the movement to develop an integrated approach at maximizing disaster preparedness and response across government levels and agencies. Of note, since the creation of FEMA, many states have followed suit and have created similar organizations to coordinate and consolidate disaster efforts. The goals of the "integrated emergency management system" are:

- Fostering a full federal, state and local government partnership with provisions for flexibility at the several levels of government in order to achieve common national goals.

- Emphasizing the implementation of emergency management measures which are known to be effective.

- Achieving more complete integration of emergency management planning into mainstream state and local policy-making and operational systems.

- Building on the foundation of existing emergency management plans, systems and capabilities to broaden their applicability to the full spectrum of emergencies.[4]

A key to the "integrated emergency management system" will be the synchronization of effort among governmental and nongovernmental agencies across the country with a role in emergency management. The concept allows for tailoring of efforts by each agency. Every locale in the United States has some capability to deal with disasters. Those in Florida, for example, may focus on the threat of hurricanes; those in California on earthquakes; those in the Midwest on tornados and, if in a floodplain, flooding. Large cities may have to consider the threat of civil unrest. In each case, local measures need to be a part of an overarching plan. The "integrated emergency management system" builds on existing local capabilities and efforts, while providing incentives to improve and integrate them into a national system. Communities will have to develop or integrate their plans consistent with national guidelines, which provide consistency across the nation but which are sufficiently flexible to allow a focus on those areas communities believe most critical.

The "integrated emergency management system" process begins with a comprehensive hazard assessment prepared by the local community. If required or requested, state and federal assistance may assist in formulating such an assessment. Once completed, the local authorities will analyze their capabilities to deal with hazards and shortfalls. They then will develop operations plans with annexes for emergency management functions and appendices for the unique aspects of different emergencies. These appendices will include mitigation measures, resources required, the execution of emergency operations, and methods for evaluation. Finally, local authorities will develop a long range plan (with yearly updates).[5]

Emergencies come in all shapes and sizes. One can characterize disasters as well as the types of responses. Domestic emergencies come in two basic categories: major disasters and civil emergencies. Major disasters are events such as tornados, hurricanes, wildfires, earthquakes, floods, and similar natural or man-made events, the extent of which can overwhelm the capability of local or state governments. In such cases, state and federal assistance is necessary. Civil emergencies represent events such as civil disturbances, critical worker strikes, environmental incidents, and mass immigration.

They endanger life and property and may disrupt the normal functioning of government.

The Role of the Federal Government.

The federal government occupies a unique position in the hierarchy of emergency management. As a resource provider, it can make up shortfalls in resources, conduct training at every governmental level, and alleviate hardship in effected communities. It plays important roles throughout the disaster lifecycle. It can create and maintain a database of lessons learned from national and international disasters, as well as provide best practices for mitigation. By funding agencies and providing grants, it also assists in the preparation for disasters. Examples of this include the National Weather Service and the National Oceanographic and Atmospheric Administration, which provide critical warning of possible destructive weather. In the response phase, the federal government maintains unique capabilities for assisting state and local governments. The Center for Disease Control and the Chemical/Biological Incident Response Force are two examples. Perhaps the most well-known and critical capability of the federal government lies in the funding it provides for recovery. Assistance is available through grants or loans to state and local governments to offset recovery costs. In addition, identical programs are available for businesses and individuals to get back on their feet after a disaster.

Two agencies of the federal government, FEMA and the Federal Bureau of Investigation (FBI), play particular roles in assisting state and local authorities. These roles depend on the nature of the emergency and types of response required. There are three broad types of response. Consequence management occurs under the jurisdiction of the state and local governments. In the classic case of natural or man-made disasters, FEMA is the federal agency tasked with the responsibility for primary coordination for assistance to local authorities. Consequence management involves measures to alleviate the damage, loss, hardship, or suffering caused by emergencies. It also includes measures to restore essential government services, protect public health and safety, and provide emergency relief to affected governments, businesses and individuals. Crisis

management occurs under the jurisdiction of the federal government when an attack by terrorists or suspected terrorists is imminent or has taken place. In addition to its preventive role, the FBI has the responsibility of coordinating with local and state agencies to resolve hostile situations and investigate and prepare cases for federal prosecution. A third type of emergency response called technical operations occurs when an incident happens where suspected nuclear, radiological, biological, or chemical agents are in play. In this instance, federal technical assistance provides national-level expertise to the authority with jurisdiction—either the FBI in crisis management, or the local and state authorities in coordination with FEMA in consequence management. This assistance will determine the nature of the specific agent and provide aid in the response and recovery processes. The Department of Energy, Nuclear Regulatory Commission, and the Environmental Protection Agency are among the federal agencies which can provide assistance during technical operations.[6]

The Stafford Act governs the federal role and response to disasters.[7] When the affected state governor officially declares a state of emergency, he requests that the President declare an emergency or major disaster for the affected region. At the same time, the governor's director of emergency management informs the FEMA regional director who reports to his or her director in Washington. Once the President declares an emergency, he appoints a federal coordinating officer to join with the state coordinating officer and establish a disaster field office. This office will support the emergency response team, consisting of representatives of 26 federal agencies and the American Red Cross. This team provides 12 emergency support functions and works closely with the state and local authorities for the duration of the response and recovery. If enough lead time exists before the disaster strikes, the FEMA regional operations center may establish an emergency response team advance office.[8]

There are four steps in the declaration process when the President declares a state of emergency:

(1) A joint state/FEMA preliminary damage assessment occurs. It consists of an inspection of the affected area to establish a

financial figure for subsequent planning, aid, and recovery efforts. This provides the basis for the governor's request for assistance to the federal government.

(2) The Governor's request for assistance then takes place. This request, by law, must declare that local and state resources are inadequate to deal with the emergency. The request includes an estimate of the damage, statement of state resources committed and description of assistance being requested.

(3) FEMA submits its recommendation to the President regarding the request. The request by the governor is routed through the FEMA regional office, which endorses the request and sends it on to its headquarters. The FEMA Director checks for applicability under the Stafford Act and recommends a course of action for the President's approval. The request then goes to the White House.

(4) The Presidential declaration. After review, the President will decide whether or not to declare a state of emergency and make assistance available. If approved, the president appoints a federal coordinating officer.[9]

Although the process may appear time consuming, in exceptional circumstances, the approval time may only be hours instead of days. After the President declares a disaster, the state and FEMA draw up an agreement which establishes the duration and types of assistance, lists the areas eligible, states the cost sharing provisions, and other terms and conditions.

In "integrated emergency management," the federal government provides resources for dealing with emergencies and disasters beyond state and local capabilities. The primary resource is financial assistance to pay for response and recovery efforts. Other critical resources are personnel and equipment too scarce or expensive for local governmental agencies to stockpile. An obvious example are the specialized resources needed for response to a terrorist attack—especially if the attack consists of weapons of mass destruction.

Although not a part of response, emergency management training is an important resource provided by the federal government. FEMA runs the National Emergency Training Center located in Emmitsburg, MD, which provides a variety of resident, correspondence, and on-line courses. FEMA can also check the completeness of state and local emergency action plans by using the emergency management accreditation program.

The Role of the State Government.

State officials occupy the most critical positions in the integrated emergency management system. The federal tradition of the United States gives primacy of place to states when dealing with emergencies within their borders. By law the federal government has no role unless and until the governor asks for assistance. The governors and state agencies have the responsibility to organize, plan for, and respond to emergencies and disasters on their territory. The state occupies a critical juncture. Those associated with state level emergency management must be intimately familiar with the capabilities of the federal government and the resources, plans, and actions of their local governments. They must be master coordinators of plans and actions to execute effectively and efficiently the demands of disaster management. The state is the linchpin between the locals in need and the massive resources of the federal government. As the state chief executive, the governor is the focus of state preparedness, response, and recovery. He or she must ensure the state and local governments are ready for the demands of emergency management by establishing the organization, reporting responsibilities, and standards of performance for agencies dealing with emergency management. Most importantly, the governor has the power to declare and terminate a state of emergency and thereby request federal assistance.

During emergencies, the governor assumes extraordinary powers and responsibilities. When a governor declares a state emergency, he or she can mobilize state resources to provide assistance. Although individual states vary, the governor can usually:

- Activate the National Guard and reassign state agency personnel.
- Direct the evacuation of the population directly affected by a disaster.
- Prohibit certain activities within the disaster area.
- Commandeer private property.
- Suspend state statues when required.
- Authorize expenditure of emergency funds.
- Enter mutual aid arrangements with other states.

Also, the governor can sometimes impose economic controls to provide affordable food, shelter, and other necessities.

To assist the governor in the supervision and execution of disaster supervision, every state maintains an Office of Emergency Response. In accordance with state law, this agency coordinates the emergency response program and publishes the state emergency response plan. State emergency managers control the coordination and dispatch of state assets to localities as needed to respond to and recover from disasters. The states vary in the selection and reporting responsibilities of the director of emergency management. Virtually all are appointed positions, either directly by the governor or a cabinet-level official. Some states have the director reporting directly to the governor, as a member of the cabinet or in the executive office of the governor. In other states the director reports to a cabinet official. The governor usually empowers the director of emergency management to take action in preparation for and response to emergencies. He or she is likely the point of contact with federal and local authorities in emergency situations.

The state performs the coordinating function in every serious emergency or disaster. Each develops and maintains a state emergency response plan—similar to the federal emergency response plan—which dictates the dispatch of resources to local areas. This

plan sets forth the roles of the state agencies and the responsibilities of the local governments. In addition, it provides the relationships and linkages between state and local authorities and those of the federal government. Given the comprehensive and integrated nature of general disaster response, teamwork is essential, and every state agency and department may assist in an emergency or disaster. The state's emergency response plan specifies the formal roles of departments. The following are samples of the state organizations that are likely to be involved in disaster management: the Adjutant General's Office, the Department of Public Safety, the State Energy Office, the State Department of Environmental Protection, the Transportation Department, the Attorney General's office, the Comptroller, the Health and Welfare Agency, the Department of Labor, and the State Emergency Response Commission.

The National Guard occupies a special place in state organizations which deal with disasters. The National Guard is state-based and consists of federally trained and equipped troops available for federal service in times of emergency or when activated by the President. Normally, the National Guard is under the command of the governor of its parent state, and he or she exercises command through the state adjutant general. The governor calls up the National Guard when the state and local civilian agencies need additional resources to deal with natural or man-made disasters. The governor may also use the National Guard to support law enforcement. The cost associated with the use of the National Guard is borne by the state until the National Guard is federalized or other specific federal funding arrangements are made. When an emergency occurs, every level of government—local, state and federal—as well as a variety of volunteer organizations, will immediately respond. Legislation and lessons learned have shaped those immediate actions.

The Role of the Local Government.

The first line of defense in virtually every case is the local authority; it is primarily responsible for managing the response to emergencies and disasters. The local elected officials such as the mayor, city councils, and boards of commissioners are the leading actors in responding to emergencies. Ideally, other levels of

government will serve to provide technical assistance, coordination, and additional resources to the local representatives. Especially important are those agreements between local governments which provide for mutual assistance. In rare cases, higher-level governmental representatives may play a greater role when the magnitude of the disaster renders the local authorities ineffective or the disaster overlaps jurisdictions.

In the response phase, the local authority will receive and issue warnings to the population which may be affected by the disaster. In addition, the local government will carry out mitigating actions and preparations, and if necessary, order an evacuation. A good example is the action taken in coastal communities when a hurricane threatens. Upon onset of the disaster, the local first responders will proceed to the emergency site and begin to provide aid on scene. Fire and police departments, emergency medical personnel, rescue units, and possibly utility workers are the best known of the local initial response personnel. The local authorities may call upon state and national organizations for assistance. The state may call up the National Guard, and units of the American Red Cross and U.S. Coast Guard may be involved from the start. The local government will attempt to ensure order and safety, provide medical services and, if required, rescue victims. Utility companies will restore vital services such as water, power, shelter, transportation, and communications. Finally, the local jurisdiction will coordinate with voluntary agencies to provide assistance for those in need.

The following factors govern the response of local authorities: speed of onset of the disaster; need for evacuation; magnitude; duration; and extent of the threat to the citizenry. Local governments are responsible for responding to threats in a fashion that will contain the emergency, protect people and property, and minimize damage. They are also responsible for overall management and coordination of an effective response and of conducting initial assessments of the damage. Lastly, they are responsible for communicating to the next higher level in the hierarchy and requesting assistance in a timely enough manner to allow those assets to respond effectively.

A comprehensive emergency operations plan is central to effective local emergency response. This document sets forth roles and responsibilities for the various agencies of local government

when planning for and combating disasters. It is a one-stop-shopping directive which addresses the disaster lifecycle of mitigation, preparedness, response and recovery. In accordance with the comprehensive nature of integrated emergency management, it should be consistent with the state emergency management plan and cover all types of natural and man-made hazards. Although every emergency and disaster will be unique, this plan will form the foundation of local actions when dealing with disasters. An effective local emergency operations plan includes sections for administration and information dissemination, and references applicable state plan sections.[10] The emergency operations plan starts with a comprehensive self-assessment addressing the capabilities of the local authorities to deal with emergencies. A valuable by-product of this assessment is a list of additional resources required to handle disasters; this aids in requests for state or federal funding and serves as the basis for cooperative or collaborative local planning among jurisdictions.

Local elected officials and appointed public administration managers like police, fire, health care, and utility personnel play important roles in the locality. These individuals are most knowledgeable with the local area and have the most influence with the affected population. These key members of the community must be aware of the contents of the emergency operations plan and ready to provide information to assisting state and federal authorities.

The Department of Homeland Security (DHS).

President George W. Bush signed into law the DHS on November 25, 2002. An analysis of the events of September 11, 2001, and the immediate aftermath, highlighted the requirement to consolidate the efforts of the federal government to protect and defend the United States against new security threats. The DHS combines the efforts of over 100 different government organizations into a unified security structure charged with defending the United States against threats now and in the future.[11]

Five primary directorates make up the core of the new department.

- The Border and Transportation Security Directorate unifies agencies dealing with the borders of the United States, waterways and transportation. The following agencies are included:
  - The U.S. Customs Service;
  - The Immigration and Naturalization Service;
  - The Federal Protective Service;
  - The Transportation Security Administration;
  - The Federal Law Enforcement Training Center;
  - The Animal and Plant Health Inspection Service; and,
  - The Office for Domestic Preparedness.
- The Emergency Preparedness and Response Directorate oversees the federal response to domestic emergencies and disasters and the federal assistance provided to state and local governments, including that to first responders. The following make up this directorate:
  - FEMA;
  - The Strategic National Stockpile and the National Disaster Medical System;
  - The Nuclear Incident Response Team;
  - Domestic Emergency Support Teams; and,
  - The National Domestic Preparedness Office.
- The Science and Technology Directorate coordinates the scientific and technological resources required and available to keep the U.S. secure. It is composed of:
  - Chemical, Biological, Radiological, and Nuclear Countermeasures Programs;
  - The Environmental Measurements Laboratory;
  - The National Biological Warfare Defense Analysis Center; and,
  - The Plum Island Animal Disease Center.

- The Information Analysis and Infrastructure Protection Directorate analyzes information and intelligence from other agencies that involve threats to the United States, and evaluates dangers to the nation's infrastructure. It includes:
  - The Critical Infrastructure Assurance Office;
  - The Federal Computer Incident Response Center;
  - The National Communications System;
  - The National Infrastructure Protection Center; and,
  - The Energy Security and Assurance Program.
- The Management Dirrectorate controls the overall administration of the department including budget and resource expenditure, human resources and personnel, and associated infrastructure and facilities management.

In addition to the five directorates, the U.S. Coast Guard and the United States Secret Service report directly to the Secretary. Other important offices include a Bureau of Citizenship and Immigration Services, an Office of State and Local Government Coordination, and an Office of Private Sector Liaison.[12] The Directorate for Emergency Preparedness and Response is the DHS's agency for dealing with integrated emergency management. FEMA remains the foundation for federal disaster response and its core functions remain unchanged.

President Jimmy Carter created FEMA in 1979 to consolidate the efforts of five federal agencies, each of which had responsibility for disaster assistance. Its headquarters is in Washington, DC, with ten regional offices that help plan, coordinate, and manage disaster assistance operations, including the four phases of mitigation, preparedness, response, and recovery. Reporting to the DHS's Under Secretary of Emergency Preparedness and Response, FEMA manages the President's disaster relief fund, the source of most of the federal financial resources in the wake of a disaster. The agency's mission is to reduce the loss of life and property and protect institutions from all hazards by leading and supporting the nation in a comprehensive, risk based emergency management program

of mitigation, preparedness, response, and recovery. The following goals drive its priorities:

- To create an emergency management partnership with other federal agencies, state and local governments, volunteer organizations and the private sector.
- To establish, in concert with its partners, a national emergency management system that is comprehensive, risk based, and all-hazards in approach.
- To make mitigation the foundation of the national emergency management system.
- To provide a rapid and effective response to any disaster.
- To strengthen state and local emergency management.[13]

FEMA uses the federal response plan to coordinate the federal response to disaster or emergency situations. This is an umbrella plan which provides the framework and guidelines for federal support to state and local authorities. The director may activate the plan fully or partially, depending on the scope of the disaster and the needs. It consists of the basic plan which lays out procedures and planning considerations; emergency support functions annexes which describe the functions of the agencies tasked to support state and local activities in 12 specified areas; the recovery function annex describes the planning considerations and necessary assistance to allow for victims and communities to return to normal. Support annexes describe ancillary functions of logistics and financial management, community and public relations, donation management, and the like. Incident annexes describe considerations requiring a unified response with other agencies in situations which may fall outside the provisions of the Stafford Act. The first incident annex deals with terrorist incidents. Lastly, appendices cover terms, definitions, and abbreviations.[14]

Regional supplements developed by FEMA and other federal agency regional offices implement the federal response plan. That plan addresses region specific issues and situations. The system allows the development of specific operations supplements to

support special events such as the Olympics or Presidential inaugurations. Federal emergency managers implement the federal response plan through specific agency instructions, directives, regulations, or manuals.[15]

Managers coordinate federal assistance at national and local levels. At the national level, FEMA headquarters in Washington forms a catastrophic disaster response group. Chaired by the agency's associate director for response and recovery, it includes representatives from those agencies with responsibilities under the federal response plan. Supporting the catastrophic disaster response group at the agency's headquarters is the emergency support team which consists of representatives from the primary and support agencies and the headquarters staff. Its job is to support the federal coordinating officer in the field and serves as the central source of information at the national level regarding the status of federal response activities. In addition, it coordinates the offers of donations and unsolicited contributions and, if required, adjudicates disputes between Emergency Support Function agencies.

At the regional level, the FEMA regional director establishes a regional operations center which serves to initiate federal response activity and coordinate actions until the establishment of a disaster field office. The emergency response team advance element is the spearhead for federal assistance. The leader is a region team leader and has support staff and emergency support function agency representatives. The team will deploy early to the state emergency operations center and, among other duties, will assist in drafting the initial needs assessment. The emergency response team supports the federal coordinating officer who heads the team. Agency staff and emergency support function agency representatives make up the team. It provides coordination to supporting agencies in the field. In addition, it serves as an information disseminating source to work with local and regional media.

The President appoints the federal coordinating officer and serves as the presidential representative to state and local authorities. He or she coordinates federal assistance with the state governor's representative, the state coordinating officer; and can task federal agencies to perform additional missions, which the federal response plan may not address. The federal coordinating officer coordinates

with the catastrophic disaster response group for reporting and requesting additional resources. The disaster field office acts as an operations center and command post to support the federal coordinating officer, state coordinating officer, and supporting staffs, and will have adequate security and communications to carry out their functions.[16]

In certain circumstances, the use of DoD assets may be necessary to provide required federal assistance in a disaster or emergency. In this case, the President and the Secretary of Defense will establish priorities and determine the extent of assistance. National leadership considers requests on the basis of legality, lethality, risk, cost, appropriateness, and readiness.[17] Beyond the National Guard, two types of assistance are typically available to the state and local authorities: military assistance to civil authorities, and military assistance for civil disturbance. The Assistant Secretary of Defense for Homeland Defense is the DoD's executive agent for state and local assistance.

On October 1, 2002, the Secretary of Defense created the Commander, Northern Command, as a unified commander to deal with natural disasters, attacks on U.S. soil, or other civil emergencies. He has the specific task of providing for a more coordinated military support to civil authorities such as the FBI, FEMA, and state and local governments. Northern Command has planning responsibility for domestic disaster relief, civil disturbance, support to the DHS for mass immigration, response to a radiological accident, and for an integrated medical operations plan for the continental United States. When required, military forces will move to Northern Command control.

Northern Command possesses three standing headquarters to accomplish its assigned missions.[18]

- Joint Force Headquarters–Homeland Security (JFHQ-HLS). Headquartered in Norfolk, Virginia, it is the homeland security organization that coordinates the land and maritime defense of the United States. It also coordinates military assistance to civil authorities and plans and integrates the full spectrum of homeland defense and civil support to lead federal agencies.

- Joint Task Force—Civil Support (JTF-CS). Headquartered at Fort Monroe in Hampton, Virginia, it is under the operational control of Joint Force Headquarters Homeland Security. The mission of JTF-CS is to provide command and control for DoD forces supporting the management of the consequences of a chemical, biological, radiological, nuclear or high-yield explosive (CBRNE) incident in the United States, its territories, and its possessions.
- Joint Task Force—6 (JTF-6). Headquartered at Biggs Army Airfield, Fort Bliss, Texas, it provides DoD counterdrug support to federal, regional, state, and local law enforcement agencies throughout the continental United States.

Implications for the DHS.

The terrorist attacks on the World Trade Center and the Pentagon on September 11, 2001, changed the face of Integrated Emergency Management in fundamental ways. Before then, those concerned with dealing with disasters focused primarily on relatively familiar natural or environmental disasters. Perhaps the magnitude or location would differ, but there was a history of national and community resiliency in dealing with such situations. The nation had become comfortable with its ability to deal with disasters. In the wake of 9/11, Americans can no longer take for granted their security, invulnerability, health, and safety within the borders of the United States.

Terrorist organizations have demonstrated their ability to strike U.S. shores, using innovative techniques and weapons. This unique threat to public safety has the capability to counter U.S. preparations and strike at weak points with not only mass loss of life, but also with a loss of confidence of the American people in their public servants and institutions. The potential use of weapons of mass destruction by terrorists with global reach poses a new threat that is orders of magnitude greater than ever before faced by the American people and those charged with their protection.

National leaders and emergency managers must combat this new threat on two levels. First, the federal government must provide

resources to develop the national technical competence to handle the new weapons of mass destruction. Second, local governments with the assistance of state and federal agencies must increase local resiliency by building capability at local jurisdictions. Emergency managers must integrate comprehensive capabilities at every level through training and exercises.

The strengthening of the technical capability is the responsibility of the federal government. The design of the DHS with its Directorate of Science and Technology indicates that agencies associated with the development of technical countermeasures will have a close working partnership under a common superior. Congress must adequately fund this directorate. The experts must quickly integrate the results of their research and development effort into the basic techniques and procedures at the federal, state, and local levels of government for disaster mitigation, preparation, response, and recovery. In addition, the DHS must inform the American people of the results and products of its research and development effort. The psychological effects of weapons of mass destruction may far outstrip the physical effects. An aggressive information campaign by the federal government will help educate the American people and mitigate the psychological effects by taking the terror out of terrorist acts.

Local emergency management organizations are already resilient. These organizations have a proud history and reputation for public service by protecting their fellow citizens in emergency situations. The new challenge is to build on that heritage and increase local capabilities to deal with the emergent threat of weapons of mass destruction. Congress and state legislatures must fund improvements to the capability of local authorities. Examples of local level required capabilities are a robust communication system, first responder protective clothing, agent detectors, and medicines. Not every capability need be resident in every locality. A mix of national resources and local capability will strike a balance between costs and availability. Disaster professionals can stage Federal and possibly state level, high cost assets needed only in exceptional cases for rapid transfer when and where needed. Not every locality is equally threatened. Analysis of the threat may indicate that targets are likely to be national landmarks or concentrated in large cities. It

is incumbent on national political leaders to allocate resources in the most effective manner.

Effective training backed by realistic exercises will tie together the federal, state, and local emergency management system. The DHS Office of State and Local Government Coordination represents a signal by senior federal leaders that this is a legitimate concern and recognized requirement. FEMA has created an extensive list of courses for state and local emergency managers, and the integration of the latest technology and recommended procedures is relatively straightforward. The challenge lies in keeping course graduates current with recent developments in the field. The state level emergency managers must play a central role in the continuing education of their constituent emergency professionals. Beyond training, exercises are the most effective method to gain experience and, perhaps more importantly, find lessons learned and develop best practices. Exercises may span the range from local-only limited emergencies to national level senior leader strategic simulation. An example of the latter is the Booz, Allen, Hamilton Port Security wargame conducted in October 2002. Most critical are exercises that involve every level of government. The comprehensive and integrated nature of today's emergency management systems must be mirrored in exercises to be truly effective.

Conclusion.

History, tradition, and necessity have established the roles of the federal, state, and local governments in Integrated Emergency Management. Disasters and emergencies have frequently tested the system in real world situations. Whether battling wildfires, dealing with threatening hurricanes or violent storms, or protecting the environment from hazardous material, the emergency management professionals and volunteers at every level of government and in nongovernment organizations have an enviable record of achievement. The system is proven and resilient. However, new challenges will demand even greater levels of performance. The threat of terrorist attack using weapons of mass destruction is a real possibility and, some would say, an eventuality. Mitigating this risk through preparedness is the single toughest challenge for national,

state, and local emergency management professionals.

The federal government has taken a large step with the creation of the DHS. However, simply eliminating redundant capability and creating a cleaner organization chart will not, by itself, add to the security of Americans. Only through creation of a common culture of dedication, trust, and initiative, based on current technical knowledge, fueled by sufficient resources and seasoned by realistic exercises, will the security preparations of the United States adequately address the challenge. Maintaining public confidence in the system in the face of an actual attack is critical. There will not be enough resources to prevent risk. Only through constant education of the general public and effective training of those responding to the disaster will government effectively deal with this new and insidious threat.

ENDNOTES - CHAPTER 11

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CHAPTER 12

IS THERE SPACE FOR THE OBJECTIVE FORCE?

Colonel Timothy R. Coffin

> The ultimate goal of Army Transformation—the Objective Force—will consist of lighter but highly lethal, mobile, and survivable formations that arrive in an area of operations ready to fight and fully synchronized with other elements of the joint Force. Our successful transformation to the Objective Force will depend to a great extent on our ability to develop and operationalize new and improved space-based capabilities. As a space-empowered force, the Objective Force will routinely exploit the overhead constellation of national, commercial and military space platforms for intelligence, focused surveillance, and area reconnaissance; long-haul communications; early warning of missile attack; positioning, timing, and navigation; missile defense; and access to the Global Information Grid... What exactly the Objective Force will look like is not yet certain. We know it will be a space-empowered military force able to deliver precisely calibrated effects, from taking a picture to dropping a precision munition, at any time and anywhere on Earth.[1]
>
> Lieutenant General Joseph M. Cosumano, Jr.

> The Objective Force is to be more strategically responsive and dominant at every point on the spectrum of military operations than the Legacy Force. It will provide the Nation an array of more deployable, more agile, more versatile, more lethal, more survivable, and more sustainable formations that are affordable and capable of reversing the conditions of human suffering rapidly and resolving conflicts decisively. These capabilities will enable the Objective Force to win on the offense, to initiate combat on their terms, to gain and retain the initiative, build momentum quickly and win decisively.[2]
>
> General Eric K. Shinseki

The Army has launched itself on a daring trajectory toward the Objective Force. That force represents an innovative model of warfare, embracing new information technologies, while leaving

industrial-age tools behind. It will transform Army forces into a more lethal and devastating force through the combination of precision weapons and knowledge-based warfare. Objective Forces will survive through information dominance, provided by a torrent of ones and zeros sent from remote sensors and processed by on board computers. Precision strike and information dominance represent a quantum leap from brute force legacy systems such as the M1A1 Abrams tank. The realties of warfare in the 21st century will relegate the Army's heavy forces to a more limited set of missions. As the Army builds the Objective Force, it will attempt to link systems from "mud to space" in order to create a synergistic effect between the warrior and the information sphere. Information will empower the Army's Objective Forces. Space-based systems will represent the foundational building blocks for the Objective Force to achieve information dominance. Satellite communications will enable knowledge-based battle command on the move. Thus, the ability to link space-based capabilities to warfighting units in a timely and relevant manner is critical for Objective Force success.

WHY THE OBJECTIVE FORCE NEEDS SPACE

Why An Objective Force?

The pace towards the Objective Force has stirred up much controversy. For many, the need for an Objective Force is not apparent. Their vision of future threats suggests that the status quo with incremental improvements in legacy weapon systems is sufficient. They point to successes enjoyed by U.S. forces over the past decade and to the need for heavy armored forces to counter threats by potential adversaries. Those advocating a rapid advance towards the Objective Force have a different view of history and the future. Led by the Army's Chief of Staff, they see land power as a critical tool for the nation's defense, one now marginalized because of its inability to address many of the nation's needs. Both groups envision the need to master a powerful opponent, but those advocating the Objective Force seek new and more flexible approaches.

To achieve the flexibility required for a more agile and effective force, the Army's mass must dramatically change. One can review the legacy force as a sumo wrestler with tremendous strength, but requiring a commensurate amount of support and sustenance. During the 1991 Gulf War, after taking 5 months to deploy, United States armored divisions crushed Iraqi forces in their path. The Army's new vision is more like that of a samurai warrior capable of rapid, decisive movements. While this samurai may be less than half the size of the legacy force and looks puny in comparison, enhanced knowledge and agility will allow him to appear unexpectedly and to apply the right force to destroy his enemies.

Army transformation plans for space to lift a heavy load for the Objective Force by using its capabilities to provide intelligence, navigation, warning, and more. Nowhere is Objective Force success more dependent than on its ability to network together enabling information for dominant situational knowledge. This chapter will address Army satellite communications needs to determine if current and future space communications can provide the capabilities the Objective Force requires to succeed. The answer requires analysis of several major areas where space communications impact Objective Force capabilities. First, why does the Objective Force need space to provide the seamless communications required for information dominance across a distributed battlefield? Second, what exists to provide the Objective Force information from ground and space-based sensors for intelligence, surveillance, and reconnaissance (ISR) as well as the warning required by the Objective Force to enable the force to see first, understand first, and act first? Third, where capability shortfalls exist in satellite communications, what can be done to provide the robust tactical information sphere needed to support transformational capabilities on future battlefields?

The Army Vision. See First, Understand First, Act First, and Finish Decisively.

Army Transformation seeks a symbiotic merger between technology, people, organizations, processes, concepts, and doctrine in order to create the Objective Force. It aims to knit together emerging and complementary ways, as if creating a master

tapestry. With this symbiosis, transformation should result in a more responsive, deployable, agile, versatile, lethal, survivable, and sustainable force. The Army's Transformation roadmap calls space the "key enabler" to provide efficient and lethal Army forces to the joint force commander.[3] A key enabler is similar to key terrain in that it can provide decisive advantages. Space enablers must provide the Objective Force with such a decisive advantage. The importance of such an advantage compels officers to clearly understand the space linkages and how they interface with Objective Force capabilities.

The need for space capabilities permeates the Objective Force from the actions required at home before deployment, through rapid redeployment after a conflict. Following the space cords that weave through the design of the Objective Force highlights the contributions expected and required from space-based capabilities. At the most basic level, the Objective Force requires three things from space to realize its operational capabilities: (1) weight reduction, resulting in increases in responsiveness and agility; (2) information dominance to see first, understand first, and act first; and, (3) control of the space dimension of the battlefield to ensure dominant space superiority, when needed.

Space-based systems increase the deployability of the Objective Force by enabling a dramatic reduction in the force's mass. The space segment for most operations is already available and ready to support worldwide operations. With space forces predeployed, they are ready to provide key intelligence, communication, navigation, weather, and missile warning support to entry operations, where no other infrastructure exists.

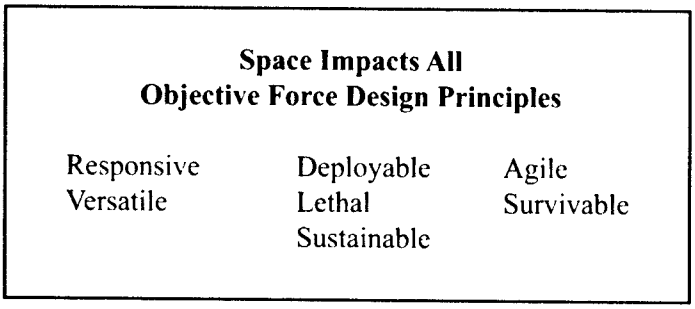


Figure 1. Objective Force Design Principles.

Space is also the most efficient domain for many functions. For example, land-based communication networks require retransmission nodes to maintain line of sight across the battlefield. To overcome such barriers, Army forces seize high ground to emplace communications and observation nodes and to deny that advantage to the enemy. Each land-based communications node requires personnel, equipment, generators, life support, fuel, resupply, protection, and command and control. At levels above the deployed force more soldiers and infrastructure have to maintain the flow of material into theater and push logistic support forward. Space systems have already captured the high ground. Migrating Objective Force communication networks to a space enabled communications architecture eliminates an entire slice of legacy support forces.

Space systems increase the lethality of the Objective Force and reduce the number of weapons and munitions required in a number of ways. Precise knowledge of friendly and enemy forces, combined with precision weapon systems, represents a devastating combination. Historically, Army forces have lacked the ability for precision engagement beyond line of sight. To compensate for the lack of precision, the Army has often substituted mass. For example, during the Korean War one artillery battalion fired 14,425 rounds in a 24-hour period of time. Units found themselves positioning the guns based on where the rail lines were, instead of where they could be most effective, in order to allow offloading directly from railcars to gun positions.[4] Space-based knowledge of targets combined with weapons guided by space-based navigation provide a quantum reduction in Objective Force mass, while increasing speed.[5]

Further weight reductions for the Objective Force will occur through the use of space-based information to dissipate the fog of war. Carl von Clausewitz coined the term "fog of war" in his work *On War* to describe the uncertainties and ambiguities that characterize the conduct of war at every level. The fog of war has represented a barrier between the information needed and those making decisions that impact the battle. Many of the improvements in military technology underway today represent attempts to reduce the barriers to a transparent battlefield. Radar represented an effort to find where enemy ships and planes were and where they might

strike. Night vision devices, aimed at taking away the fog of night, and satellites were means to sense enemy actions and hint at his intentions. In spite of new technology, the fog of war has persisted.

> Even with radical improvements in satellite imagery, the use of night-vision goggles and the Predator, technology cuts through only some of the fog. Gigabytes and streaming video are no guarantee that people will learn everything they want to know or even see the same thing.[6]

The most deadly day for American forces in Afghanistan serves as a reminder that fog and friction in war still exist and may be the decisive factors during volatile, uncertain, complex, and ambiguous times. When asked, "What happened?" in the incident on March 4, 2002, where seven United States servicemen lost their lives in combat, Secretary of Defense Donald Rumsfeld replied, "We may never know."[7] High-Tech weapons and state of the art intelligence failed to merge disparate bits of information required to understand the battlefield while the events were occurring. While some level of the fog of war will always persist, there are ways to reduce and deal with uncertainty.

The traditional way of dealing with uncertainty has been to bring more people, firepower, and supplies to provide resources to deal with the unexpected. Unfortunately, deploying more inevitably slows the force's responsiveness and agility. If the commander does not know where or how large the enemy force is, his tendency is to bring more forces. If he does not know when he will encounter the enemy, his moves will be cautious, and he will add more armor. When forces are not sure when the next resupply will occur, they order more and are reluctant to attack until the ammunition arrives. American history from the Civil War through to the First Gulf War is replete with opportunities lost in military campaigns due to such factors. Space cuts through fog and uncertainty with its systems that can, at times, reduce the need for mass to mitigate risk and uncertainty.

Lighter combat systems, empowered by new sources of information, provide agility and responsiveness to the Objective Force. A responsive force masters time, distance, and momentum to meet the challenges of tomorrow's warfare. Space-based sensors can

feed the Objective Force's need for knowledge before deployment and are key to situational awareness during forced entry and subsequent operations. Such sensors along with space-based communications ensure the Objective Force arrives rapidly, fully synchronized, and ready to fight. Space increases the force's agility by providing information for situational understanding and the means for its dissemination. Space systems that provide information dominance for combat operations also provide communications and information support for peacekeeping, peace enforcement, and humanitarian operations, thus enhancing the Objective Force's versatility. Space then plays a major role in enabling the Objective Force.

DO SPACE COMMUNICATIONS MEET OBJECTIVE FORCE NEEDS?

"Space to mud" connectivity is more than just a bumper sticker; it is the reality of the task required for the success of the soldier deep in the muck of battle. Space to mud must reflect the attitude, practice, and organization of the Objective Force.[8]

The Need for Speed—Knowledge Demands Increasing.

The ability to pass information has always been critical to military forces. Nevertheless, in recent years the demand for data has exploded. In ancient warfare, messengers carried commands, and "state of the art" communications was a good runner. Phidippides' run from Marathon to Athens in 490 BC to warn the Athenians of the approaching Persian Navy represents an example of such communications, limited in both speed and distance. Larger empires required more efficient means of communications. By 37 AD state of the art for the Romans was a relay system for complex messages and a wireless digital-optical communications system to transmit information at the speed of light. This speed of light system used flashes of light from a polished metal mirror to send coded messages—a simple forerunner of fiber-optic communications. Napoleon used a similar system to pass signals from station to station at a rate of approximately ten signals per minute. This system

could relay a single signal from Paris to Calais in about 3 minutes. The American Civil War saw a dramatic jump in the speed of communications with the first widespread use of the telegraph. The most skilled operators could achieve a speed of 42 words per minute, which would equate to the modern scale of 32 bits per second. By the end of the Civil War, Grant was using the telegraph to control nearly a half-a-million soldiers.

World War I saw relatively small changes in the speed of communications. By World War II the telephone and radio had dramatically improved voice communication, but the speed of data transmission had only doubled from in the Civil War. The advent of computer technology, however, changed everything as is shown by the logarithmic rate of increase in Figure 2. By the Gulf War, single data circuits were transmitting data as fast as 256,000 Bits (Kbs) per second, an increase of more than 3,600 times in only 40 years.

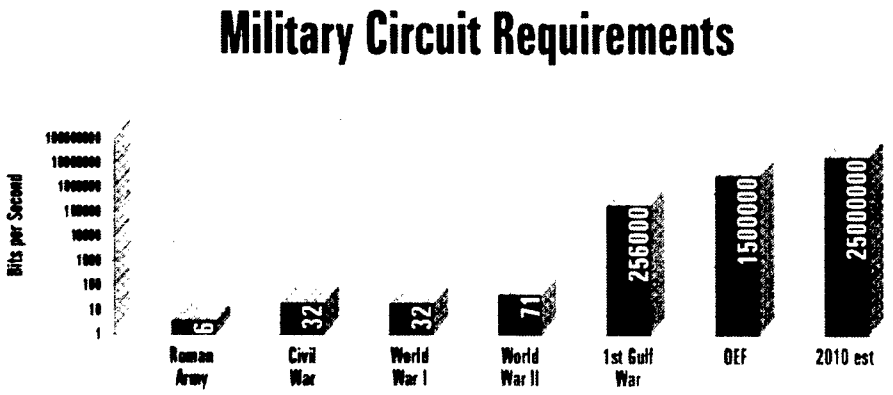


Figure 2. Increase in Data Rates.

The need for speed has continued and bandwidth[9] requirements continue to rise. Recent conflicts have demonstrated the need for circuit data rates in combat areas with 1.5 megabits. During Operation ENDURING FREEDOM, Unmanned Aerial Vehicles consumed as much as 48 Million Bits (Mbs) of bandwidth per aircraft. Put in perspective, the amount of bandwidth consumed by a single Unmanned Aerial Vehicle, was half the bandwidth used during the Gulf War to support 500,000 troops. At the height of the

war in Afghanistan, a force one-tenth of the size of the DESERT STORM force used 600 percent more bandwidth. This increase in a single decade equates to 6,000 percent, when adjusted for the size of force employed.[10] The increase in data flow provides key information to legacy forces, but only begins to hint at the demands an Objective Force will place on communications systems.

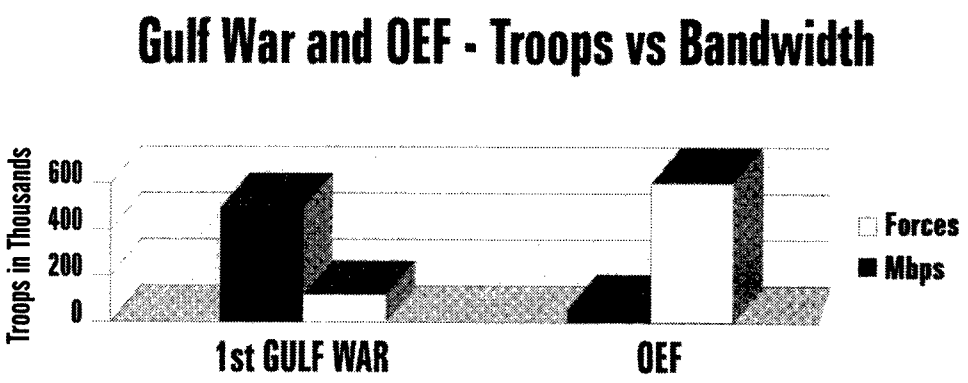


Figure 3. Bandwidth Increase between 1991-2002.

Not only has the amount of data exploded, but the number of sites that need data has multiplied as well. During the Civil War only commanders of armies and corps required long-range communications to conduct military operations. In contrast, the Objective Force requires that individual combat platforms and soldiers have a high level of access to digital data immediately upon entry into the battle space. These formations will fight in a more dispersed fashion than ever before. The highly mobile platforms of the Objective Force will require digital terrain products to provide soldiers the knowledge of how to mask and transit the terrain without exposure to hostile fires. While providing critical protection, the same attributes that make this force faster, more survivable, and lethal, also make it more difficult to communicate with other Army entities in the force. Future forces will transmit and receive information through a worldwide supporting communications infrastructure known as the Global Information Grid. If disconnected from the Global Information Grid (GIG), Objective Force elements lose connectivity with long-range sensors as well as the enabling

information and knowledge pushed from reach-back centers located far from the conflict. Disconnected units will lose their ability to see enemy forces and identify friendly forces. The result will be a force more vulnerable to attack as well as an increased vulnerability for friendly-fire incidents. In many cases, these forces must access space-based communications, when unable to connect with terrestrial line of sight communications systems.

Objective Force Concept.

The Objective Force units designed to close with and engage enemy forces are Units of Action (UofA).[11] Such brigade size units are capable of conducting full-spectrum military operations. The Objective Force concept calls for forces to be ready for operations on arrival in the area of operations and to maintain information dominance while on the move. UofA soldiers will possess a family of innovative platforms collectively called the Future Combat System. To reach its operational capabilities, the Future Combat System and other systems in the UofA must function as a networked system of systems and create high capacity mobile ad hoc networks with antijam and low probability of detection while forces are moving. Such a mobile network requires large increases in bandwidth in comparison to the paucity of the spectrum available now to Army forces, especially to units at brigade level and below.

> FCS Communications, the enabler for FCS at large, is likely to be critically dependent on the use of airborne (and space-borne) assets due to limited LOS connectivity in complex terrain and foliage. . . . Terrestrial communications alone will not be adequate to support FCS; airborne and SATCOM networks will have to become critical parts of the FCS system, rather than "opportunistic luxuries."[12]

The Objective Force will depend on space-based communications before it deploys until it returns to home station. After alert, Objective Force units at home station connect to the GIG via high bandwidth fiber optic connections to obtain situational awareness and intelligence. Space-based sensors provide near real time imagery, intelligence, and geospatial information about the area of interest and the area

of operations. This information is relayed to commanders and staff by transmitting sensor data from space through ground relays to support operational planning. Large satellite dishes at fixed locations linked to fiber optic backbones maximize the throughput of space-based data. While this communications architecture supports much of today's home station needs, it will require continued upgrades to support the Objective Force's deployment. Once the Objective Force unit begins deployment, space-based communications will link sensors, networks, and operational units in order to facilitate the transfer of knowledge to enroute forces. That capability will allow the commander to communicate and adapt to changing situations in the objective area. Once the Objective Force has entered into the area of operations, it begins to employ organic sensors to augment the space-based capabilities which enabled its entry. Today, once army units deploy and are in motion, their ability to receive high bandwidth communications remains limited. The next section will delineate military communications capabilities.

MILSATCOM.

Military satellite communications currently reside in three major bands: Ultra High Frequency (UHF), Super High Frequency (SHF), and Extremely High Frequency (EHF). Each frequency has unique characteristics that suit them for different missions.[13]

UHF Communications. The U.S. Navy operates the UHF constellation of satellites and provides the primary support to mobile users. The Navy initially developed UHF communications and launched the first generation of spacecraft called FLEETSAT to support naval aircraft, ships, and submarines. The current generation of satellites on orbit is called UHF Follow On (UFO). UHF signals broadcast from such satellites penetrate weather, foliage, and other materials such as reinforced concrete. Units can receive their signals using relatively low-cost lightweight radios with omni-directional antennas. These characteristics make UHF highly suited for mobile operations. The drawbacks to UHF lie in the fact that it provides low data rates in comparison to current needs, while the spacecraft require large antennas with significant power. These systems typically support data rates less than 16 Kbs. UHF communications

are also relatively easy to jam.[14]

The Navy operates a fleet of UHF satellites that augment line of sight radio systems and provide the long-range point-to-point voice communications with low data rate connectivity that is critical in extended operations. Each of these geosynchronous[15] 60-foot long satellites has a total of 39 channels with a combined bandwidth of 555kHz.[16] Each theater of operations normally has two UHF satellites in sight. If the theater is not sharing satellites with other combatant commanders and assuming both satellites are fully operational, there would be 78 channels supporting a theater with a maximum total UHF capacity of 1.1 Mbs. In actual use the capacity of the satellites is reduced because channels dedicated to voice circuits optimize command and control voice communications instead of data throughput.[17] In addition to supporting the Joint Force Commander, the constellation provides support to the Army, Navy, Air Force, Marines, Special Operations Forces, State Department, National Agencies and Presidential Communications to the theater.

Admiral Dennis Blair described the UHF situation in his theater in his testimony before Congress in the following terms: "... limited Ultra High Frequency (UHF) SATCOM capacity over this AOR (*area of responsibility*), is fast becoming a factor in my ability to command and control forces. . . . SATCOM connectivity to our highly specialized forces is more critical than ever before."[18]

Super High Frequency (SHF) Communications. SHF communications are today's SATELLITE COMMUNICATION workhorses for the Department of Defense (DoD). The Army operates the payload on these satellite systems, which constitute the Defense Satellite Communications System (DSCS). The five primary satellites located in figure four provide global coverage with high capacity SHF communications. A single DSCS III satellite provides nearly as much communications capacity as the entire constellation of UHF satellites. The first DSCS satellite, launched in June 1966 weighed only 100 pounds and could relay only one voice, or data channel. Only generation II and III DSCS satellites are operational today. The first of the current generation of DSCS III satellites was launched in 1982, while the newest DSCS satellite, launched on March 10, 2003, weighs over 60 times the weight (6,025 lbs.) of its predecessor. The most recent satellite to launch, manufactured in 1978, as a ground

test satellite was refurbished twice (most recently in 1995) to update its capacity before its launch into space.[19] While this satellite provides capabilities indispensable to the health of the constellation, the DSCS III is virtually unchanged by the needs of transformation from its Cold War design. SHF systems nonetheless are critical to Army forces due to their higher capacity. Disadvantages of SHF systems include their higher cost and their need for larger ground antennas to maximize data throughput.[20]

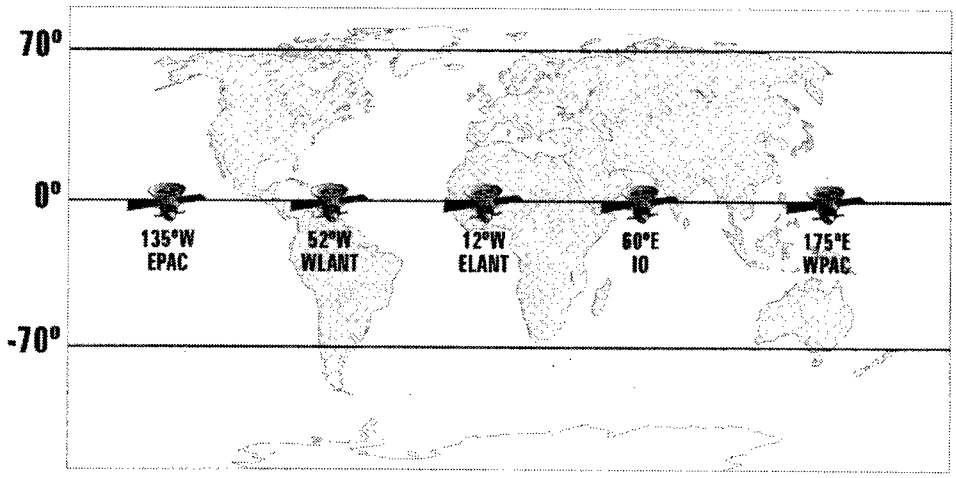


Figure 4. DSCS Prime Satellite Locations.

Antenna size is a major factor influencing data throughput in satellite communication systems. To maximize the capacity of the Defense Satellite Communications System (DSCS) constellation, primary earth stations have antennas as large as sixty feet in diameter that are anchored in huge concrete footings for stability. When the user is unable to use an optimally sized antenna, the amount of data it is able to receive decreases. For example, a DSCS receiver with a 4-foot diameter dish would receive 256 Kbps, while a 7-foot antenna would have seven-fold increase to 1.7 Mbps from the same satellite signal strength. Conversely a vehicle-sized 18-inch antenna would only receive a 64 Kbs data stream from the same radiated power from the satellite.[21] Increasing the power of the signal from the satellite and using larger antennas on the space segment can provide

additional gain to overcome some of the data rate problems mobile users experience, but such solutions have drawbacks as well. Larger satellite antennas are extremely costly and complex structures that increase the cost and risk associated with the satellite launch. Increasing satellite broadcast power for users with small antennas decreases the power available to support other users.

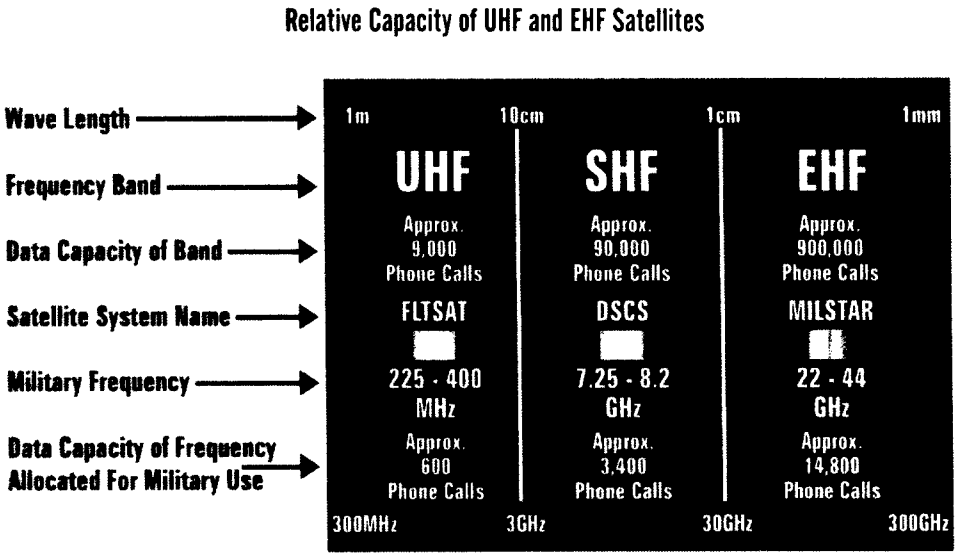


Figure 5. Relative Capacities of SATCOM Bands UHF, SHF, and EHF.

EHF Communications. EHF communications were originally developed to transmit Emergency Action Messages (EAM) and voice instructions for command and control of nuclear weapons. These preformatted messages did not require a high data rate, so that a maximum data rate of 2.4 kbs was selected.[22] This small trickle of data is mixed with a flood of up to 40 Mbs of data generated from a secure cipher, which is so complex that the pattern will not repeat itself for hundreds of years. The resulting transmission is a complex waveform resistant to jamming and interruption. While this is highly desirable for nuclear command and control, it represents a very inefficient use of the spectrum to transmit large amounts of data. While the two original satellites only supported low data rate

transmissions (75 bps-2,400 bps), the final four were constructed with a medium-data rate package that supports T1 size channels (1.54 Mbps).[23] Three of the four satellites achieved orbit on launch and are currently supporting military operations, but MILSTAR-2 F1 was placed in a useless orbit during its launch in April 1999,[24] leaving the constellation significantly short of its anticipated capacity. EHF communications represent the area with the most growth potential for Army Objective Force operations due to the high data capacity and smaller antenna sizes. EHF communications are not without their drawbacks. EHF systems require high levels of technical sophistication, are costly and more affected than lower frequencies are by rain fade, which can disrupt communications during periods of heavy rain or dust storms.[25] Figures 6 and 7 provide a relative comparison of the three spectrum military satellites operate in.

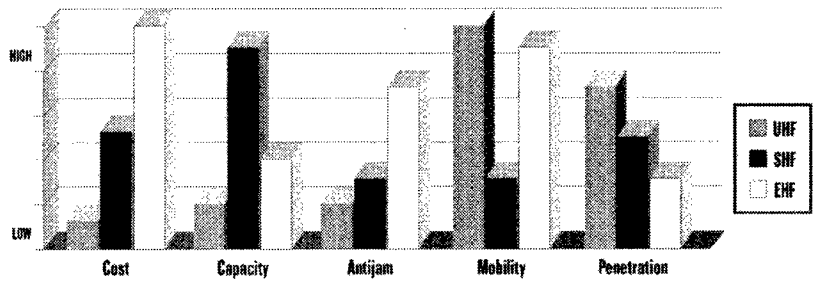


Figure 6. Differences in SATCOM Bands.

Commercial SATCOM.

When military satellite communications are unable to meet the demands of a crisis, DoD turns to commercial communications providers to fill the void. While fiber optic communications have rapidly linked the digital infrastructure in the United States and even stretched to major installations overseas, they have little utility in reaching the last leg of the journey to soldiers and their combat systems. Commercial satellites provide critical augmentation to push data to forward bases and command and control hubs. When available, most wide band commercial communications can integrate into forward airfields and base camps to augment military

communications. These arrangements are generally costly as DoD must purchase hardware, software, technical support, maintenance, and satellite time to create a functioning communications pipeline.

To ensure success of commercial satellite business ventures investors normally require customer contracts before the satellite is built and launched. Businesses launch few commercial satellites on a speculative investment model that leaves large amounts of unused bandwidth for sale. In most cases this leaves insufficient commercial

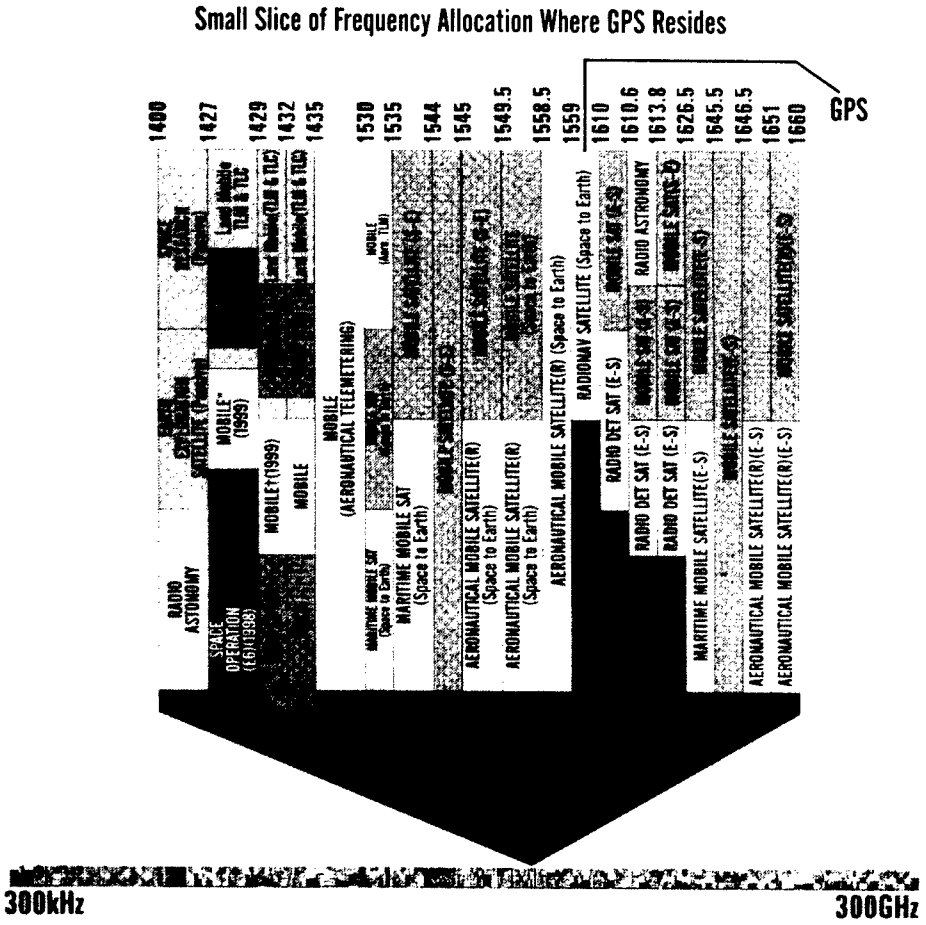


Figure 7. The Crowded Frequency Spectrum.

capacity available on the spot market for short-term lease to meet military's surge requirements and longer-term shortfalls. That is not to say that commercial systems have not provided critical support to military operations.

Operations DESERT STORM, ALLIED FORCE, and ENDURING FREEDOM all turned to commercial providers for significant levels of support, when the theater of operation had little ground infrastructure and military systems were fully utilized. In support of ALLIED FORCE, the Department spent over $20 million to augment satellite communications for the 87-day conflict. Forces supporting Operation ENDURING FREEDOM needed 567 megabits per second of satellite communications. Military satellites provided only 35 percent of the satellite communications needs, while commercial sources provided 65 percent.[26] With luck (that spare bandwidth was available) and at considerable cost, the Defense Information Systems Agency (DISA) secured the bandwidth and over time, all of the hardware, training, and integration engineering needed to meet the minimum needs of U.S. forces was in place. In addition to the cost, the use of commercial satellite communication resulted in a significant delay required for procurement, training, and integration of commercial systems, which were unfamiliar to the deployed force. Soldiers fortunate enough to have Iridium phones relayed information through units in the United States to pass messages back to their higher headquarters, when unable to make critical connections through dedicated DoD systems. Units that purchased laptop-size commercial satellite communication terminals from International Maritime Satellite Corporation (INMARSAT) could connect at speeds up to 64Kbs to transmit orders, download small data files, and slowly transmit imagery.

Commercial systems play a supporting role in military communications, but have too many shortfalls to provide support to key warfighting functions. Commercial systems are not designed to support military operations. Satellites and ground equipment are not universally compatible so that the equipment used on one operation may or may not work for the next operation. Satellites are not designed to support encryption and lack hardening and the ability to detect enemy physical, electronic or cyber attacks. No existing commercial systems can provide the data levels, security, global

coverage, user terminals, and compatibility required for mobile command of Objective Force units. Commercial augmentation can provide support to the stationary enabling forces in support of major contingency areas, if multiyear leases are negotiated which address the full range of support issues that commercial augmentation brings.

Spectrum.

Radio spectrum is a finite resource, regulated under international law and by a United Nations body called the International Telegraphic Union (ITU).[27] Within the United States the Federal Communications Commission (FCC) controls frequency allocation.[28] In recent years, significant portions of the bandwidth used by the military have come under attack from private industry seeking additional frequencies for commercial activities. Attempts to reallocate military frequencies to commercial sectors undoubtedly will become more aggressive, as competition for this finite resource becomes more intense in an information based economy. Today a United States Army heavy division already has over 10,700 individual emitters that use a portion of the frequency spectrum.[29] Loss of frequency spectrum can seriously hinder military capabilities and cost billions of dollars to shift existing systems to other frequencies.[30]

The frequency bands supporting ground forces today provide insufficient capability to transmit the large amounts of data over the distances and terrain needed by the Objective Force. The majority of communications systems currently resident in the division operate in the Very High Frequency (VHF) and UHF portions of the spectrum (30-2500 MHz) and deliver primarily voice communication and some data exchange. VHF supports line of sight radios that have worked well for command and control of units operating in close proximity. However, the requirement to concentrate forces to enable communication does not fit the Objective Force Concept. Existing frequencies used at division and below provide the capacity for limited data exchange and verbal command and control, while providing good penetration of many of the environmental conditions commonly found on the battlefield like rain smoke and foliage. These frequencies also operate with relatively small antennas and radios,

which are important for mobile ground forces.

Today's SATCOM Cannot Meet the Vision for Tomorrow.

Communications Shortfalls. Shortfalls in communications capability continue to rise in spite of increasing capacity on MILSATCOM systems with each new generation launched. The most recent data point in 2002 showed that military satellite communications satisfied only 35 percent of the satellite communications needs for Operation ENDURING FREEDOM.[31] By 2010 the first Objective Force units with enhanced battlefield sensors will be collecting orders of magnitude more data to provide greater fidelity, which will in turn require larger communication capacity. An example from the commercial world of space imaging helps illustrate the magnitude of the problem, compounded in national satellite systems by higher resolution and larger data files.

To receive a single black and white photograph from space by the commercial imaging system QuickBird requires 1,600 Mb of data.[32] While the black and white photo is useful to the warfighter, viewing the same scene in hundreds or thousands of bands with hyper-spectral sensors enables the warfighter to identify camouflage, decoys, chemical agents, locations where the earth has been disturbed, and much more. A hyper-spectral imager collects the same amount of data for each band imaged, as was collected for the black and white image, so a one-thousand band imager would need to transmit 1.6 Terabits of information for the same point on the ground.[33]

As Objective Force units deploy, they require continuous high-bandwidth communications enroute to update threat information and continue collaborative planning. Accurate data from space-based sensors provide Objective Forces the agility to land out of contact with the enemy and move directly into offensive operations. Few deployment platforms possess the long-range communications to support the deploying force. Mobile platforms currently equipped with satellite communication are most likely to be equipped with UHF satellite communications, if they have satellite communication capability at all. The scarcity of available channels and the low data rate of UHF make this existing capability an unlikely solution for the Objective Force.

Contrast the 16Kbs data rate in an existing UHF link to the data output from a single Global Hawk unmanned aerial vehicle, able to communicate at 274 Mbs and expected to consume 1 Gigabyte of bandwidth by 2010.[34] Already the requirements for bandwidth are huge. "During Operation Enduring Freedom (OEF) Global Hawk consumed five times the total bandwidth used by the entire United States military in the Gulf War."[35] Objective Force units are not only constrained by the total satellite communication system capacity, but within the available bandwidth, they must compete with the growing requirements of other services and governmental agencies. Within an area of operations, the Combatant Commander uses his Director for Command, Control, Communications, and Computer Systems (J6) and the Regional Satellite Support Center (RSSC) to allocate his apportioned bandwidth in accordance with theater priorities and requests augmentation through the Joint Staff for critical shortages. The Joint Staff may allocate additional resources by taking bandwidth from other theaters or by directing the DSIA to attempt procurement of additional spectrum from commercial sources. In some situations Combatant Commanders have to choose between systems, capabilities, and coverage areas, when insufficient bandwidth exists for simultaneous operations.

Current needs for space-based communications are increasing faster than the capability to provide satellite communication. The Combatant Commander of Pacific Command noted in Congressional testimony that "New platforms are producing an increasing flow of data, but our ability to exploit this data has not kept pace." He then went on to site "insufficient communications" as one of the key shortfalls.[36] These "bit rate" shortfalls to the ground combat soldier have a direct correlation with the ability to maintain sufficient information dominance to keep our forces alive. For example, some friendly force losses in Afghanistan may have been avoided if the capability existed to fuse, process, and transmit information already in hand to the point on the battlefield where the knowledge would make a difference.[37]

For the Objective Force to maintain information dominance, data, and, more importantly, knowledge, throughput to the deploying force must increase. Information must be processed, synthesized, and forwarded in real time. Smart sensors must know where to probe

and intelligent systems must be able to extract critical information and forward the data in a compressed format. The solution to these problems will require a combination of increased capability, smarter processing, and appetite suppression. Today, systems collect much more information than they process, and they process more than they make available to the tactical commander. Deploying Objective Force units will not only need to reach forward to maintain situational awareness of the operational environment, but will also require simultaneous reach-back to supporting analysis structures at its deployment base. An increase in wideband capability is necessary for truly seamless information flow during the transition from home station through deployment.

Dealing with Reality.

Current satellite communication capabilities cannot meet the evolving Objective Force demands. A rough estimate of an individual Future Combat Systems (FCS) communications needs underlines the inability to provide sufficient data to Objective Force units on the move with today's systems.[38] Vehicles separated from line of sight communications have a host of data needs like those shown in Table 1 that are best satisfied through overhead systems. This data requirement alone requires 1,000Kbs circuits, while the primary capability to provide mobile data comes from UHF systems at 16Kbs.

The leap from today's Army to the desired Objective Force communication capabilities appears to be beyond the grasp of the initial effort. The concept for the Objective Force Unit of Action calls for the integration of communications capabilities into Future Combat System Vehicles and its soldiers to eliminate dedicated signal systems and associate personnel. The October 2002 Objective Force draft approved for planning reflects a recognition that current technology and communications capabilities cannot provide wideband satellite communication on the move in time for the Block 1 fielding of the Future Combat System. As a replacement for wideband satellite communication on the move, the Unit of Action plan grew by 48 personnel, 15 vehicles, 5 robotic vehicles, and associated equipment.[39] The addition of this signal company

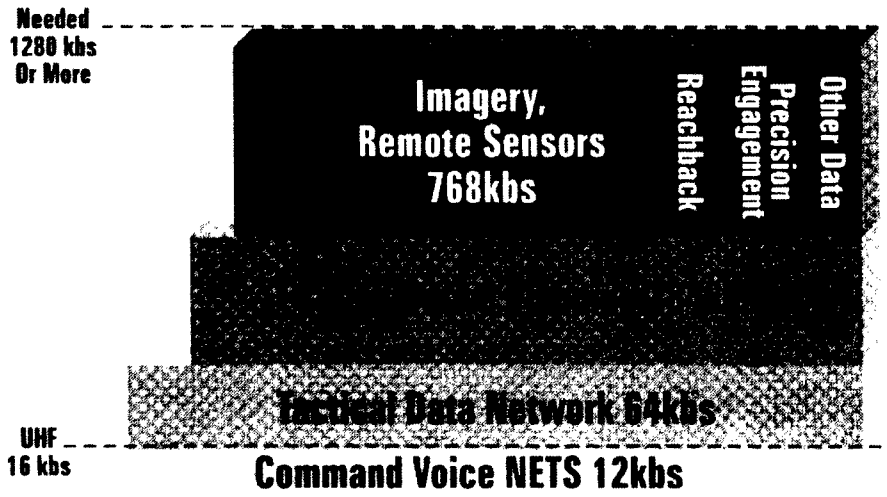


Figure 8. Combat Vehicle Cumulative Data Needs.

Voice Command And Control	Collaborative Planning
Friendly Force Positions and status	Common Relevant Picture
System Logistic And Support Data	Weather And Micro Forecast Data
Missile Warning	Chem/Bio Hazards, Downwind Messages
Requests For Long-Range & Supporting Fires	Precision Engagement Support
Graphical Control Measures	Enemy Locations, Capabilities & Intentions
Long-Range Sensor Data, Target Locations	Imagery, Digital Terrain Updates

Table 1. Objective Force Future Combat System Data Needs.

increases the logistic support required for the Unit of Action (including medics, mechanics, fuel, food and water consumption, etc.) and ultimately requires more airlift, while creating a drag on its deployability and agility in the field. This initial Block I Objective Force has a marked improvement in information capabilities, but remains a far cry from the capabilities described in the Army Chief of Staff's vision.

Mud To Space: Complex Solutions For Complex Problems.

Solving the Objective Force information needs at the warfighter level requires visionary solutions unaffected by the cultures and biases of today's organizations and programmatics. Solutions to this challenge are expensive, require changes that cut across traditional areas of responsibility, and require technologies that continue to change at a breathtaking pace. But this should not come as a surprise. Acquisition strategies must plan for technology insertion, upgrades, and programmed replacements, while executing best value purchasing policies. There is no single solution or program office that can meet the Army's needs. Some of the solutions will come from the joint environment, while others must come from other agencies. For solutions to work, they must comprehensively address changes throughout the network of architectures that create the system. These changes should start at the birth of data, where it is first collected and continue to the purging or archiving of the data, when the warfighters needs are satisfied. In addition to addressing changes to the data itself, the systems of hardware, software, formats, linkages, and human interfaces of the architectures must be addressed as well.

DATA LEVEL SOLUTIONS—REDUCING DEMAND AND ENABLING DATA INTERCHANGE

At the point of data creation the Objective Force needs a strong set of standards and formats in order to enable rapid data interchange between network components. An unattended ground sensor should be able to pass its data directly to weapons platforms

from any service without concerns about programming language, data elements, or measurement standards. Strong enforcement of standards across DoD will simplify network development and data interchange. The National Space Security Architect established a long-range plan as an outgrowth of its Mission Information Management (MIM) Information Management Architecture (IMA) study to bring data generating systems into a standard architecture that would result not only in synergistic effects, but long-term cost savings as well.[40] The major problem with this plan is that it lacks a powerful governing board to arbitrate changes to the standards, or an enforcement mechanism to keep programs in compliance.

Once collected, data must be transmitted. Currently there is little incentive for program developers to develop systems that preprocess data before transmission to reduce the amount of data. Program developers largely focus on their program or sensor cost and not on the network-wide costs or tradeoffs, which could result in a cascading of costs to the greater system. Incentives must exist in program management to minimize the data stream from the hundreds of battlefield sensors. Compression techniques or target recognition software must use critical information requirements to filter data collected and only forward data of interest for further processing. Total end-to-end understanding and control of the system being developed would enable such management decisions and acquisition trades.

TERMINAL SOLUTIONS—PLATFORM INTEGRATION

Soldier Systems.

At the soldier's level, the communications architecture should work for the soldier and integrate easily into each task. The Army has recognized the need for wireless high data rate communications in vehicles and for wearable soldier systems. Its Short-Range High Data Rate Wireless Communications solicitation seeks bids to develop a wireless 100-megabyte per second network to connect dismounted soldiers to their vehicle networks and to each other over short distances.[41] This network allows soldiers conducting operations outside their vehicles to access onboard knowledge systems and use the higher power communications systems on the vehicle to pass

images, targets and threat data to and from the network.

Objective Force soldiers need a personal communications device that stays with them at all times. During Operation ENDURING FREEDOM, U.S. soldiers dragged around large bulky radios with limited ranges, while Al Qaeda members purchased satellite cell phones to connected with one of the most powerful communications satellite on orbit. Such phones are no larger than the typical discount cellular phone sold in this country, but can connect directly with other phones without going through the cellular system. When outside of direct contact with the number dialed the phones automatically connect with the local cellular service. When no cellular service is available the phones connect directly to a satellite to route the call. The lead in technology innovation and application should not rest with our adversaries. If every DoD member possessed such devices, the individual handset cost would dramatically decline. Making these phones a part of everyday duties would enable rapid recall of soldiers, facilitate daily operations, increase safety, and eliminate millions of dollars in current cell phone contracts. Off-duty personal calls could be encouraged, with calls charged directly to the soldiers pay account at a nominal rate to help persuade soldiers to keep the device available at all times. Building pager and Global Positioning System devices in the phone could solve blue force tracking issues by providing the location of each soldier on the battlefield.[42] A built-in pager could provide missile warning to those in the threat fan or chemical warning to those in a downwind pattern.

Vehicle Systems.

Meeting the needs of Objective Force combat vehicle communications represents a more difficult problem requiring multi-band solutions with smart processing software. Objective Force Future Combat Systems rolling off transport aircraft and sealift must arrive connected to a GIG and sensor network with full awareness of the tactical and operational situation. While in transit to the area of operations, combat systems must update and pass data across a network compatible with the transport aircraft. Conformal antennas on the aircraft surface could provide connectivity enroute. Future Combat Systems must have self-organizing and self-healing

communication networks, which transfer data from peer to peer when line of sight links are available and automatically search for earth, air, and space links when other vehicles are out of sight. Conformal phased array antennas with no moving parts, electronically steered while on the move, provide the ability to switch seamlessly between data sources.[43] The Joint Tactical Radio System and Warfighter Information Network-Tactical are two challenging new programs working to design and build the hardware needed to support some of these Objective Force needs.

BANDWIDTH SOLUTIONS—MAXIMIZING DATA PIPES TO GET THE MESSAGE THROUGH

Internet Protocol and Packet Data.

Currently, most military communications use dedicated communications pipes, which will become unsupportable in the future due to their inefficient use of the electromagnetic spectrum. Objective Force Communications must transition most of these systems to a smart Internet Protocol (IP) based network to allow data to be sent as packets similar to Internet traffic.[44] This packet approach enables each communications pipeline to service many users and allows the throughput of the channel to be maximized. Large packetized data files are sent over multiple streams for reassembly at destination. Encrypted packets must provide multilevel security and smart dithering of data. Automatic dithering reduces the amount of data passed to minimum essential elements, when the network capability is restricted. This allows for the graceful degradation of the system when communications nodes are operating at reduced capability or blocked. Multi-band radios like the Joint Tactical Radio System will provide seamless switching between jammed and open channels. Smart dithering and prioritization of the data streams ensure that the most critical data can always get through. This thinning of the data becomes critical when units are on the move or during periods of bad weather. A future combat system traveling down a road in Bosnia could link to an EHF satellite to enable large data transfers. As it starts to rain, EHF communications dramatically drop off, and, as the vehicle passes into a wooded section of the

road, the EHF signal is lost. As the primary signal fades, the onboard communications would automatically select a different satellite or use the strongest of the remaining signals and continue the download of critical packets. In this case, UHF communications, with their rain penetrating characteristics, continue to transmit critical information at a much reduced data rate. The systems above would prioritize data including threats and warnings to friendly forces first.

Frequency Reuse.

The electromagnetic spectrum is key terrain for the Objective Force. Maximizing the use of available bandwidth in the spectrum can provide a marked advantage to the Future Combat System when sufficient information is passed to meet the combat needs. Unfortunately, the requirements on this fixed number of radio frequencies continue to rise, while the available frequencies remain fixed by the laws of physics. Given that no additional spectrum can be created, the need for communications must be filled by using available frequencies more efficiently and more creatively. Frequency reuse multiplies bandwidth by using the same frequency multiple times. Normally two satellite radios can not use the same frequency, or they would cause interference and jam each other's signal. Satellite antennas that focus on a small area called a "cell" disregard similar frequencies coming from adjacent cells, allowing the frequency to be reused in every cell created. Figure 9 includes an example of four frequencies being reused in multiple cells to maximize the use of the available bandwidth. Each frequency is used only once within a cell and is kept separate from other users on the same frequency by the cellular pattern. Some of the newest commercial satellites already use this technology to serve a larger subscriber base.[45]

Commercial Bandwidth.

One way to deal with the lack of spectrum is to buy satellite time from commercial providers. Commercial satellite communications are more helpful in providing links to fixed command and control sites like the one U.S. military forces established at the Kandahar

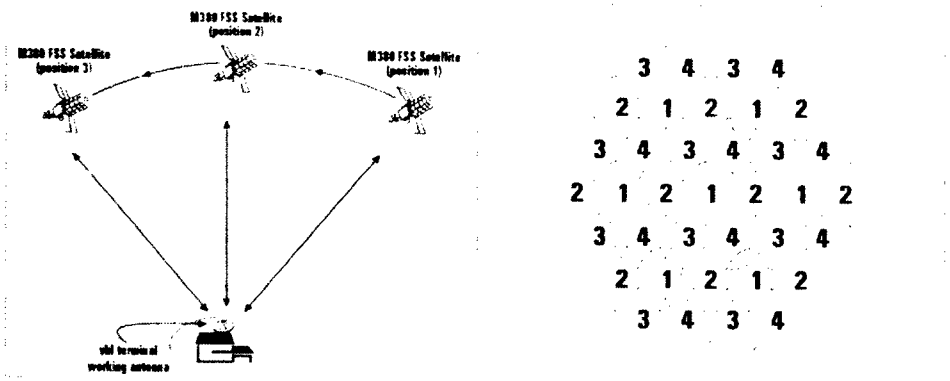


Figure 9. Multiple Look Angles and Frequency Reuse.

airport in Afghanistan. This is due to several reasons. Most commercial satellite systems are designed to support fixed locations rather than highly mobile users and do not have the capability to deal with challenges mobile users present. Other problems with commercial systems include their lack of hardening from attack, difficulty in dealing with military encryption systems, and their need for hardware separate from that fielded to military forces.[46] In addition to these problems, there is no assurance that commercial providers will have capacity available to sell.[47] Taking several proactive steps will mitigate these difficulties and enable commercial communications to provide part of the answer.

Instead of relying on the communications spot market, the DISA should purchase large blocks of frequency in areas where military operations are likely. DISA can negotiate long-term contracts at much lower rates to ensure communications are available when needed. These contracted commercial satellites can provide much of the communications needed for large headquarters and fixed sites which are not served by fiber connections, thus leaving the military satellites for mobile users. Agreements with commercial providers for back up satellite command and control and satellite hardening requirements would provide greater assurance of availability in times of conflict. Working closely with commercial providers may enable the military to add dedicated transponders to commercial satellites, which have available power and space onboard the satellite bus. These additional assets could provide redundancy and robustness to

the overall constellation with relatively small costs. The addition of cross-linking capabilities to new commercial satellites would enable these commercial satellites to integrate into the global network to provide more direct support. More importantly, new military terminals must be built with the ability to receive and transmit on commercial frequencies, so that new radios are not required when the Army can augment its capabilities with commercial spectrum.

SATELLITE SOLUTIONS AND SURROGATES

Satellite Design.

At the space end of the communications problem, satellites and satellite constellations must be designed to support the operational needs. Satellites need onboard processors to support network management and routing of packetized data. Such satellites would become a space-based network computer server to push the right packets to the right users on the right frequencies to maximize throughput and ensure delivery. Satellites themselves must be cross-linked to form a self-managing network that reroutes traffic to avoid congestion and blockages of the communications signal. A space-based communications backbone could create a nearly limitless data pipeline, using laser communications to increase bandwidth within the network. Laser links could transmit data packets between satellites for transmission to the ground using traditional frequencies, and link high altitude aircraft and airships with laser signals. Satellites must be built to maximize the number of narrow spot beams. Spot beams increase the signal power to the user, reduce jamming threats, and allow multiple users who are geographically separated to use the same frequency without interference, virtually multiplying the usable bandwidth by the number of spot beams. Flying multiband satellites would enable ground, sea, and air-based equipment with stabilized antenna systems to seamlessly switch on the move from one band to the next without having to search for and reacquire a lock on another satellite.

Multiband satellites can be single large satellites or merely appear as a single satellite by flying clusters of micro satellites in a precision orbit. Giant antennas in space, larger than a football field,

would enable smaller low-power hand-held and wearable devices to communicate via space. These complex antenna structures could be assembled and mated in space at the International Space Station, thus reducing the costs and risks involved with deploying the intricate engineering structures robotically. Future satellites should be designed for on orbit repair and upgrade. Micro satellites could repair and refuel these large investments in national infrastructure, similar to the way the Hubble Telescope has been repaired and upgraded, using astronauts from the space shuttle. Geosynchronous satellites provide limited coverage for mobile users at high latitudes, in urban canyons, and in complex terrain due to the need of the vehicles antenna to be able to see the satellite. One way to overcome this "look angle" problem is to augment the geosynchronous network with a robust low or medium earth orbit constellation that can provide the high look angles needed to ensure data delivery.[48] Because these satellites are closer to the earth, they can transmit more powerful signals to ground receivers and receive weaker low power signals in return. In addition to power benefits these closer satellites can reuse the frequency spectrum as was described in the spot beam characteristics above. To track these satellites moving at 17,000 miles per hour, vehicle antenna systems must be extremely agile and ideally would consist of phased arrays, electronically steered to compensate for vehicle movement. Space systems can be augmented by high altitude systems which appear as satellites from the ground force prospective.

Pseudo Satellites.

Complementing the space segment of the communications network with a suite of high altitude platforms would contribute to the robustness of the communications architecture. One of the most promising platforms is the High Altitude Airship. This rigid blimp-like craft more than two football fields in length would operate at altitudes over 70,000 feet for one or two years before returning to home station. From a communication terminal's perspective, the airship would appear as a stationary satellite with the advantage that the airship could be placed where needed over a theater of operations without the limitations of orbital mechanics. Another advantage of the High Altitude Airship is that it can return to earth

for repair or upgrade. Data needed by the Future Combat System would be beamed by laser from satellites to receivers on the top of the High Altitude Airship, which would convert the data to UHF, SHF, and EHF packages for delivery to vehicles on the ground. This hybrid space/high-altitude design provides several advantages. It increases the number of look angles and would allow the user to get data blocked by terrain, vegetation, or buildings. Airships or other high altitude unmanned aerial vehicles can be positioned at any point over the battlefield that can be protected and can carry additional sensors to support Objective Forces. Most importantly, pseudo-satellites also have the capability to multiply bandwidth available to the warfighter through frequency reuse as part of a robust system of systems to meet Objective Force needs.

CONCLUSION

> The capacity to produce relevant knowledge will meter the tempo of theater operations. I believe the difficulty of gathering the information needed for high tempo, large scale, multidimensional and noncontiguous operations is largely underestimated...If Army units are to fight off the ramp, they must have situational understanding off the ramp. I suspect that there is an important delta between the capability projected to be available by 2015 and that which will be required... If our concepts depend on purpose oriented networks and knowledge enabled organizations, we must invest in the communications that will enable them.[49]

The Objective Force Concept is a visionary change in future ground combat operations. When the vision comes to fruition, it will provide a critical capability to the United States as it seeks to ensure peace and security in a changing world. Pivotal to the forces' effectiveness are the space enablers to tie together fast moving agile forces, dispersed across the battlefield. Of the space enablers, satellite communications play an essential role in information dominance and success. However, existing satellite communications systems designed and built for Cold War needs are woefully inadequate for high technology digital warfare, while ground-based systems cannot support the mobility, agility, and speed expected of these forces. The growth of communications requirements needed to support Future Combat Systems and the Objective Force requires

complex multiechelon solutions, with fundamental changes from the smallest data bit to the largest satellite 22,300 miles in space. Solutions will not be easy or cheap, but require a strong hand to ensure the multiple acquisition systems, doctrine, and requirements processes synchronize in support of a clear objective.

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CHAPTER 13

EXPANDING NUCLEAR ARMS CONTROL: DOD IMPERATIVES IN THE AFTERMATH OF SEPTEMBER 11, 2001

Lieutenant Colonel Carlton B. Reid, Jr.

> The gravest danger our Nation faces lies at the crossroads of radicalism and technology. Our enemies have openly declared that they are seeking weapons of mass destruction, and evidence indicates they are doing so with determination. The United States will not allow these effort to succeed. . . . History will judge harshly those who saw this coming danger but failed to act. In the new world we have entered, the only path to peace and security is the path of action.
>
> President Bush
> Report on the National Security Strategy
> September 17, 2002

Senior civilian and military leaders of the Department of Defense (DoD) routinely make difficult choices in the application of resources appropriated by Congress. Of necessity, military leaders structure forces to accomplish national security tasks across a wide spectrum of conflict in concert with other executive departments, Congress, and international bodies such as the United Nations (U.N.) and the North Atlantic Treaty Organization (NATO). But first, each activity must survive DoD's force management process. The On-Site Inspection Directorate of the Defense Threat Reduction Agency, once the darlings of the Reagan-Bush administrations, now confronts the same scrutiny imposed on other agencies and services, as decision makers trade spaces and programs to transform DoD.

Fortunately, the Secretary of Defense's emphasis on capabilities force management provides the framework within which to develop concepts and missions and structure forces to implement arms control. Recent events, as well as President George W. Bush's *Report on the National Security Strategy*, point to weapons of mass destruction as *the* major threat to U.S. national security, especially if they are in

the hands of terrorists or rogue states.[1] Thus, the existence of nuclear stockpiles in the former Soviet Union (FSU), nuclear testing by India and Pakistan, North Korea's recent violation of the 1994 Agreed Framework, Iran's declaration of its intent to control the entire fuel cycle, the International Atomic Energy Agency's inability to monitor covert nuclear programs in Iraq and North Korea, and growing concerns over the control and protection of fissile materials impose a capability requirement on DoD. The questions then are:

- How will nuclear arms control look in the future as defined by international trends, "Joint Vision 2020," the latest "Quadrennial Defense Review," the most recent statement of the National Security Strategy, and the first-ever "National Strategy to Combat Weapons of Mass Destruction"?
- What capabilities does the United States require and which of those should reside in DoD, the Department of Energy, the Department of State, or international bodies such as the International Atomic Energy Agency?
- Which personnel need to be civilian, military, or contracted?
- How should the Department organize and train U.S. military forces to accomplish required weapons of mass destruction inspection missions?

The answers to the above questions must lead to an executable concept within the framework of doctrine, organization, training, materiel, leadership and education, personnel and facilities of the Joint Vision Implementation Plan, and must determine the Army's contribution to this crucial defense activity. This chapter restricts its examination of the Army's role to the Nuclear and Cooperative Threat Reduction Branch of the On-Site Inspection Directorate. However, the methodology is applicable to the structuring of forces to control all weapons of mass destruction. DoD must revisit the on-site inspection paradigm, retain what has worked in the past and still applies, discard what is no longer relevant, and add new elements necessary to address new challenges, threats, and opportunities. Thus, building upon past successes and adapting to encompass a

dynamic threat environment, the Department can provide a unique capability in advancing U.S. interests in this vital area.

THE THREAT ENVIRONMENT FOR WEAPONS OF MASS DESTRUCTION

The collapse of the Soviet Union in the early 1990s created a highly unstable security environment shaped largely by regional instability in the Balkans, South West Asia, and Africa. President George W. Bush, in his 2002 State of the Union address, further identified Iraq, Iran, and North Korea as "the world's most dangerous proliferators" of weapons of mass destruction: "States like these and their terrorist allies, constitute an axis of evil, arming to threaten the peace of the world."[2]

In so doing, Bush established that the chief threats to America's security were rogue and nonstate actors, seeking to acquire weapons of mass destruction with which to alter the established world order, impose radical Islamic ideology, destroy Israel and create a Palestinian state, and destroy first world states standing in their way. Following the tragic events of September 11, 2001, his speech captured a resolve to wage an aggressive war on terror, which was to be the center piece of the 2002 mid-term elections. More importantly, it elevated the prevention of rogue and nonstate actors from acquiring weapons of mass destruction (later identified as preemption in the 2002 national security strategy), as its most important strategic objective. As a result, the establishing of control, safeguards, verification, and transparency over existing weapons and fissile material (along with non nuclear materials) has reemerged as a top priority for the nation. Since Russia possesses over 95 percent of the world's nuclear weapons and materials outside of the United States, cooperative, bilateral, arms control efforts also reclaimed their standing at the nexus of Russo-American engagement.[3]

Russia and the Former Soviet Union.

During the Cold War, the Soviet Union produced an extensive weapons and power production complex. The lion's share of the production capability and strategic stockpile lay in four states:

Russia, Ukraine, Belarus, and Kazakhstan. Fortunately, all of the successor states except Russia terminated their nuclear weapons programs, signed the 1970 Treaty on the Non-Proliferation of Nuclear Weapons, and turned existing weapons over to Russia—a major, unprecedented achievement. Russia then accepted responsibility for all remaining weapons. This sequence of events established two pressing priorities for U.S. national and world security: weapon and fissile material accountability (the need to gain control over "loose nukes"), and the need for effective verification.

Independent assessments vary on the amount of material still remaining in Russia. Ashton Carter, former Assistant Secretary of Defense during the Clinton Administration, in his testimony before the Senate Foreign Relations Committee, stated that the Cooperative Threat Reduction funded Mayak facility aimed at entombing "some 20,000 nuclear bomb's worth of plutonium and highly enriched uranium"[4] resulting from the Strategic Arms Reduction Treaty. That total constitutes only a "fraction of Russia's huge store of fissile material, enough for a staggering 80,000 bombs."[5] According to the Nuclear Threat Reduction Campaign, "Russia still has enough weapons material to build at least 60,000 nuclear warheads."[6] In either case, neither of these numbers accounts for tactical nuclear weapons, not yet subject to bilateral treaty reductions and the most likely weapon of choice for nuclear terrorists. Additionally, Russia's research and power producing reactors (including a remaining plutonium production reactor generating power in the Krasnoyarsk region) continue to generate fissile material, which (when separated) only adds to the materials at risk. Thus, the shear quantity of nuclear materials poses a significant threat as a source for nuclear terrorism.

The lack of definitive accountability of existing special nuclear materials compounds the threat posed by the quantity. The great uncertainty associated with the accountability of nuclear weapons and fissile material in the former Soviet Union (from production facilities and retired weapons) has created conditions favorable for diverting material into the hands of rogue states and terrorist networks. The International Atomic Energy Agency evaluated the risk of theft and diversion among the top three risks in nuclear terrorism. Echoing the Agency's assessment, the Nuclear Threat Reduction Campaign's statement cited a recent CIA report that

faulted "the security of Russian nuclear arsenal facilities for undetected smuggling."[7] As a consequence, Western states, led by the United States (and especially two farsighted senators, Sam Nunn and Dick Lugar), appropriated millions and now billions of dollars to help Russia gain control and reduce the risk that nuclear weapons might fall into malevolent hands. This massive undertaking has been successful by nearly every measure. Still, after 8 years of effort, "only 40 percent of the facilities housing nuclear materials in Russia have received any security improvements through US assistance," of which half are still in progress and not yet completely secure.[8]

In addition to the vulnerability of nuclear materials, Russia has also produced vast amounts of chemical and biological agents, even more susceptible to employment by terrorists, as demonstrated by the use of anthrax attacks in the United States in 2001 and the 1995 Sarin subway attacks in Tokyo. Russia has produced "thousands of tons of viruses that cause anthrax, smallpox, and the plague, and at least 40,000 tons of nerve and blister agents."[9] U.S. and other agencies have yet to determine the full magnitude of the problem as a result of a lack of Russian transparency in chemical and biological weapons (as recently witnessed in the Moscow movie theater incident). As a result, the Bush administration has delayed the start of new Cooperative Threat Reduction programs until the Russians are more forthcoming on chemical and biological programs, including those dating back to the Soviet era.[10]

Post-September 11.

The attacks on the World Trade Center and the Pentagon forever changed the security environment and redefined the unthinkable, as well as the lengths to which terrorists could go. Those acts catapulted Americans from the immediate post Cold War period, in which the United States struggled to develop a coherent, unifying national security strategy. Led by the Clinton administration, the United States practiced preventive measures with North Korea, containment of Iraq, Cooperative Threat Reduction with Russia, the Oslo Accords with Israel and the Palestinian Liberation Organization, and engagement with China. The United States led military peacekeeping operations in Bosnia Herzegovina and

the NATO air campaign against Serbia in Kosovo. It championed multilateral arrangements, globalization and free markets, and assembled the North American Free Trade Agreement to counter the formation of the European Union. What was missing, however, to impose order, structure, priorities, and direction on U.S. foreign policy and national security strategy, was a clear, defining threat.

Though unintended, Al Qaeda's attacks provided the clear, unmistakable threat to U.S. national security with the first attacks on American soil since Pearl Harbor.[11] Intelligence analysts, justice department officials, and policymakers began to connect the dots systematically and discovered a convergence of rogue states intent on destroying regional stability, nonstate terrorist groups willing to use mass destruction to accomplish their goals and willing to die in the process, failed states in which terrorist groups could function with little interference, and rogue and nonstate actors intent on acquiring weapons of mass destruction through theft, diversion, and purchase from cash-strapped smugglers. President Bush's 2002 State of the Union address provided an unambiguous assessment of current and future threats. Likewise, he identified three rogue regimes that he believes embody the intent and the potential to threaten U.S. interests at home and abroad.

The Axis of Evil.

Iraq, Iran, and North Korea constitute President Bush's Axis of Evil. Of the three, Iraq and North Korea occupy center stage in the nonproliferation arena. The United Nations Security Council, led by the United States, authorized economic sanctions, combat operations, and weapons inspections to seize and destroy weapons of mass destruction in Iraq with significant success until Saddam Hussein expelled the inspectors in 1998. Iraq's unwillingness to continue disarmament under United Nations oversight placed it first among equals in the America's strategy to combat the threat of weapons of mass destruction. However, North Korea's recent admission that it possessed a covert nuclear weapons (highly enriched uranium) program—as well as provocative actions during the 1990s—makes it the second most pressing object of U.S. foreign policy.

In his May 6, 2002, Heritage Foundation Lecture, John R. Bolton, Under Secretary of State for Arms Control and International Security, stated that North Korea had violated the Biological and Toxin Weapons Convention. He further alleged that North Korea has "developed and produced, and may have weaponized biological agents in violation of the Convention."[12] Six months earlier, Bolton had charged North Korea for its covert nuclear weapons program in violation of the Nuclear Non-proliferation Treaty:

> This year, North Korea did not meet congressional certification requirements because of its continued lack of cooperation with the International Atomic Energy Agency, its failure to make any progress toward implementing the North-South Joint Denuclearization Declaration as called for under the Agreed Framework, and for proliferating long range ballistic missiles. Finally, we believe that North Korea has a sizeable stockpile of chemical weapons and can manufacture all manner of CW agents.[13]

Recent intelligence reports have confirmed suspicions that North Korea has violated its obligations to the international agreements to which it is a party. When confronted, the North Koreans acknowledged that they have been pursuing a nuclear weapons program for the past several years, after first vehemently denying the charge. The executive board of the Korean Peninsula Energy Development Organization condemned North Korea for "pursuing a program to produce highly enriched uranium for nuclear weapons . . .,"[14] and cited its actions as "a violation of its obligations under the Agreed Framework, the Nuclear Non-proliferation Treaty, and the Joint South-North Declaration."[15]

These developments, along with the Spanish interception of North Korean ballistic missiles en route to Yemen, underlined North Korea's role as a major contributor to the proliferation of weapons of mass destruction.[16] Its willingness to sell arms and technology as well as a covert nuclear production program, makes it a likely source from which rogue and nonstate actors could acquire weapons of mass destruction. Not to be forgotten, Iran recently admitted that it had embarked on a program to control the entire nuclear fuel cycle. Secretary Bolton announced U.S. concerns that Iran was "seeking all

elements of a nuclear fuel cycle, from mining uranium to enrichment to production of reactor fuel," at the summer 2002 Group of Eight (G-8) summit in Canada.[17] Six months later, International Atomic Energy Agency director Mohamed El Baradei traveled to the Natanz nuclear facility, and verified Iranian opposition group reports that Iran was completing construction of a gas centrifuge plant capable of producing enriched uranium. Iran's actions, combined with declarations that it "intends to activate a uranium conversion facility near Isfahan . . . to produce uranium hexaflouride gas (for use in the enrichment process)," suggest that Iran was developing a covert nuclear program to produce uranium weapons, while the International Atomic Energy Agency was focused on safeguarding declared activities.[18]

Rogue states are but one, albeit important, source of material at risk to terrorists seeking to use weapons of mass destruction against the United States. Ash Carter points out that the post-September 11 environment includes materials from Pakistan and India, states which have built nuclear arsenals to deter their neighbors, nonrogue states from Ghana to Serbia possessing research reactors, and other non-nuclear weapons states, including allies such as Japan and Belgium, possessing plutonium by-products of their nuclear power programs.[19] These, along with radioactive sources used in medicine, industry, and other peaceful pursuits, could provide radioactive materials to terrorists just as easily. In sum, the wide availability of nuclear, radiological, chemical, and biological materials constitutes a greater threat in this post-9/11 world. Thus, the United States requires a strategy based upon capabilities, that addresses a multitude of threats, and that employs instruments capable of defeating the threat of weapons of mass destruction at their origin. Though a relatively recent development, the history of on-site inspection demonstrates considerable potential for verifying accountability, control, and destruction of materials and weapons of mass destruction.

ON-SITE INSPECTION

Some government and security analysts, when contemplating the unstable, multithreat environment which characterizes the 21st

century, erroneously look back on the bipolar security environment that dominated the Cold War with a sense of nostalgia. In this new environment, weapons of mass destruction pose a great threat to the world's security and stability, as the Bush administration's recently published National Security Strategy indicates.[20] Weapons of mass destruction constitute a threat in the hands of terrorist groups and rogue states, sources which nonproliferation policies aimed at countering. However, the existence of weapons of mass destruction also poses a threat from nonrogue states. These include traditional, first-world powers as well as states seeking prestige through the acquisition of such capabilities. Many have already developed chemical, biological, or nuclear weapons. Unless reduced and controlled, these weapons could find their way into the hands of those willing to use them. Fortunately, on-site inspections have proven effective in reducing the threat.

On-site inspection represents a key military instrument in America's national security strategy. Not withstanding the difficulties experienced in Iraq, it remains a vital instrument and could contribute to the combating of the proliferation of weapons of mass destruction in states that recognize the threat posed by such weapons. On-site inspections serve as the steel that strengthens treaties and builds confidence among participants. Thus, U.S. policymakers should retain and support on-site inspections as a viable strategic concept, worthy of expansion to reduce the threat among states with the added benefit of reducing stocks that might become available to rogue states and terrorists (foreign and domestic).

Bilateral On-Site Inspections.

On December 8, 1987, Presidents Ronald Reagan and Mikhail Gorbechev signed the historic Intermediate-Range Nuclear Forces Treaty in Washington, DC. "The treaty eliminated an entire class of ground launched intermediate-range and shorter-range missiles and their launchers and prohibited possession of such systems thereafter."[21] According to the treaty, intermediate and shorter range weapons were those in excess of 500 kilometers but not greater than 5,500 kilometers. It also provided "an extensive and, for the time, unprecedented regime of on-site inspections."[22]

In conjunction with monitoring and national technical means, the newly conceived on-site inspections became a critical component of verification and the subsequent determination of compliance by the treaty partners. The on-site inspection provision led to the creation of the On-Site Inspection Agency under the Office of the Secretary of Defense. That office was to verify compliance by the 15 successor states of the Soviet Union. Russia, Kazakhstan, Belarus, and Ukraine assumed the roles of active implementors.[23] Colin Powell, as the National Security Advisor to President Reagan, recommended that the On-Site Inspection Agency become a part of DoD with a uniformed director, and deputy directors from the Departments of State (Arms Control Disarmament Agency), Energy, and the FBI. Army and Air Force lieutenant colonels led interagency teams consisting of weapons inspectors and experts from relevant government agencies. Thus, the On-Site Inspection Agency, joint and interagency in character, grew out of the National Security Council and the interagency process.

The Intermediate-Range Nuclear Forces Treaty's on-site inspection provision proved to be highly effective and included baseline (to verify data declarations), close out, short notice, elimination, and around the clock inspections "at any facility at which the production or final assembly of a prohibited Ground-Launched Ballistic Missile occurred."[24] As a result of 13 years of inspections (851 by the United States and 540 by the Soviet Union and its successor states), the parties have confidence that both sides have complied; the United States has eliminated 2,332 treaty limited items and the former Soviet Union 5,439 items. Of the treaty limited items, the inspectors verified that 846 U.S. missiles (Pershing 1A and IB, Pershing II, and BGM-109G GLCM) and 1,846 former Soviet Union missiles (SS-4, 5, 12, 20, 23, and SSC-X-4 GLCM) were destroyed.[25]

Without question, on-site inspection demonstrated considerable utility under the Intermediate-Range Nuclear Forces Treaty when applied in the context of willing states who saw it in their individual and collective interests. When combined with other verification means, it became a powerful national security tool in eliminating the threat presented by intermediate-range and shorter-range nuclear weapons. Risk depended in large part on the cooperation of treaty partners and a shared interest in reducing the threat of nuclear

annihilation, especially when confronted with the Soviet Union's collapse. Success also depended on a number of other verification means, supporting and directing on-site inspection efforts. As a result, the combined effect reduced the risk and contributed to the growth of a highly effective inspection regime, modified and largely replicated in subsequent treaties.

Multilateral On-Site Inspections.

In contrast to the success of on-site inspections under the Intermediate-Range Nuclear Forces Treaty and subsequent nuclear (Threshold Test Ban Treaty, Peaceful Nuclear Explosions, Strategic Nuclear Arms Reduction Treaty) and conventional (Conventional Forces Europe) treaties, U.S. policy did not support legally binding declarations and aggressive, robust, and short notice on-site inspections in the class of multilateral agreements designed to reduce the threat of weapons of mass destruction.[26] These include the Chemical Weapons Convention, Biological and Toxin Weapons Convention, and the Comprehensive Test Ban Treaty. The Biological Weapons Convention, for example, "forbids its 144 member states from developing, retaining, and transferring" biological weapons.[27] Crafted in 1972, it asserted that "use of biological weapons would be repugnant to the conscience of mankind and that no effort should be spared to minimize this risk."[28] However, the absence of on-site inspections and tougher, legally binding provisions enabled thirteen states (including seven member states) to violate the convention without serious repercussions.[29]

Characteristic of the current Bush administration's policies regarding multilateral agreements prior to September 2001, the U.S. supported weaker, less politically binding provisions and opposed rigorously enforced declarations. Consequently, the United States derailed international efforts mounted to strengthen the Biological Weapons Convention. Fortunately, the events of September 11, 2001, have altered U.S. national security strategy. The Bush administration has emphasized the role of multilateral cooperation when it launched the War on Terror by mobilizing a coalition of willing nations around the world. The world observed the administration's shift in policy from the threat of unilateral use of force to a concerted effort

to win international support prior to taking military action against Iraq. President Bush challenged the United Nations to hold Iraq accountable for failing to comply with legally binding resolutions and won a 15-0 unanimous vote in the Security Council (which included nations as ideologically opposed to the United States as Syria). Accordingly, U.S. policymakers should revisit international nonproliferation regimes and advocate rigorous on-site inspection provisions and other verification means (e.g., legally binding declarations) to reduce the threat of weapons of mass destruction in the Biological Weapons Convention, Comprehensive Test Ban Treaty, and Chemical Weapons Convention. If necessary, the United States should engage the Conference on Disarmament to strengthen provisions while inserting language and taking measures to protect U.S. security and commercial interests where wanting.

In the nuclear nonproliferation arena, the United States entered a number of bilateral and multilateral agreements designed to stem the production of fissile material, testing, and the flow of missile technology and components worldwide.[30] The U.S. Arms Control Disarmament Agency, supported by the Interagency (in conjunction with the Conference on Disarmament and other interested parties), took the lead and laid out the road map, a comprehensive plan to control each element of the nuclear fuels cycle necessary to build weapons.[31] The cycle consists of uranium mining, milling, and conversion; enrichment (in the case of high and lowly-enriched uranium [HEU/LEU]); plutonium reprocessing; pit design and assembly; missile technology export controls; and storage of material from weapons taken out of the stockpile. The agreements designed to address these elements of the nuclear fuel cycle include extant treaties such as the Threshold Test Ban Treaty, the Strategic Arms Reduction Treaty, and the Agreement to Shutdown Plutonium Production Reactors. Future agreements will address the other aspects of nonproliferation to include the Fissile Material Cutoff Treaty, Enhanced Missile Technology Control Regime, and initiatives currently grouped under the rubric of safeguards, transparency, and irreversibility such as Strengthened International Atomic Energy Agency Safeguards and Mayak Transparency.[32] A mix of bilateral and multilateral agreements, they represent diplomatic efforts to serve U.S. interests by preventing nuclear proliferation.

While the results are mixed, two things are clear: rigorous verification and legally binding provisions are indispensable for successful nonproliferation and arms control regimes; and the requirement for on-site inspection will continue into the foreseeable future. Concerns over sovereignty and other issues of interest to Congress and others-particularly prior to September 11, had constrained U.S. involvement in multilateral agreements. Likewise, the administration's appetite for time consuming international negotiations through organs such as the United Nations and the Conference on Disarmament was nearly nonexistent. However, the advantages accrued in its efforts to assemble a "coalition of the willing" and remove the Taliban regime in Afghanistan should be sufficient to convince skeptics that unilateralism works against U.S. long-term interests in garnering international support and legitimacy. More to the point, unilateral action will not enable the United States to accomplish its most important objectives. Accordingly, one must view multilateral agreements at least as a necessary evil warranting U.S. involvement and commitment in order to ensure they serve the national interests (e.g., define the scope and treaty limits, shape the language, etc.).

International Atomic Energy Agency Strengths and Weaknesses.

The International Atomic Energy Agency safeguards is a vital United Nations' program designed to increase confidence that states remain in compliance with the nuclear Nonproliferation Treaty and the peaceful uses of nuclear material. It possesses the requisite expertise to monitor and administer programs for nonweapons state signatories.[33] Thus far, it has proven to be highly effective when nations willingly submit to oversight of their programs. The United States also supported the use of the International Atomic Energy Agency as a means of gaining control of peaceful nuclear programs around the world (with hopes of convincing Russia that placing material under International Atomic Energy Agency safeguards would serve Russian as well as world security interests). Unfortunately, countries such as Iraq and North Korea, both signatories as nonweapons states, have pursued nonpeaceful purposes and concealed their efforts without detection, while under

the safeguards program.

The case of Iraq, in particular, raises questions about the International Atomic Energy Agency's ability to provide confidence for the international community concerning rogue states which sign the nuclear Nonproliferation Treaty with no intention of complying fully, or which change their intention without withdrawing from the nuclear Nonproliferation Treaty. Before and after the Gulf War, Iraq engaged in a series of deceptions undetected by International Atomic Energy Agency's monitors, while simultaneously earning International Atomic Energy Agency praise for compliance. As an example, ". . . only weeks after Iraq invaded Kuwait, International Atomic Energy Agency safeguards director Jon Jennekens praised Iraqi cooperation . . . as exemplary . . . a solid citizen under the Nuclear Nonproliferation Treaty."[34] After Operation DESERT STORM, the International Atomic Energy Agency learned, along with the rest of the world, that Iraq had continued its pursuit of nuclear weapons under the International Atomic Energy Agency's nose. In 1993, after destruction of the discovered plants, International Atomic Energy Agency Director General Hans Blix again asserted that Iraq had changed its ways. He stated that the Iraqis had not tampered with highly enriched uranium under International Atomic Energy Agency safeguards. Yet again, the International Atomic Energy Agency had been unable to detect Iraqi efforts proven by the defection of Saddam Hussein's son-in-law, General Hussein Kamel. Kamel testified to the United Nations Security Council that he had been the director of a "crash program" to build a crude nuclear weapon from International Atomic Energy Agency-safeguarded material.[35] He also admitted to cutting the ends off the highly enriched uranium rods which would have enabled the Iraqis to assemble a SCUD mounted nuclear warhead within a month, had they not been halted by Coalition bombing during DESERT STORM.

Admittedly, the risk that states could violate treaty constraints (or not fulfill all obligations) without detection exists even with strengthened provisions. Obviously, Iraq demonstrates how the safeguards arrangement, which worked well in most instances, fails under conditions in which the signatory has no intention of complying. Likewise, North Korea reinforces this important limitation in International Atomic Energy Agency-like protocols.

Nevertheless, the status quo is far worse, relying only on intelligence estimates as is the case with the Biological Weapons Convention: "With treaty violations on record and too few effective ways to monitor compliance and legally enforce the Biological Weapons Convention,"[36] states routinely disregard requirements to submit declarations. Thus, conventions alone will not suffice to provide confidence that states will fulfill their obligations. To address this shortfall, proponents of tougher inspections, broader mandates, and legally binding declarations argue that added on-site scrutiny will deter countries from pursuing illegal programs. In effect, tough standards provide the incentive for compliance with international norms.

The goal of reducing and eliminating the threat of weapons of mass destruction ranks among the top strategic objectives and policy priorities facing the U.S. Government. The use of on-site inspections under the Intermediate-Range Nuclear Forces Treaty provided the rigor, incentive, and confidence to reduce the threat of nuclear weapons of mass destruction. In contrast, their absence multiplied the threat under the Biological Weapons Convention. As the international community grapples with the need to expand and strengthen nonproliferation regimes in the wake of September 11, it will look to the United States for leadership in crafting tougher provisions to provide the confidence that neither rogue nor nonstate actors possess weapons of mass destruction. Therefore, DoD must retain and expand on-site inspections, in conjunction with other verification means, as an effective, confidence-building engine toward reducing and eliminating the threat of weapons of mass destruction. The Defense Threat Reduction Agency's On-Site Inspection Directorate (the Defense Threat Reduction Agency/OS) is the repository of U.S. knowledge, and expertise upon which to build a new strategic concept for combating weapons of mass destruction.

THE NUCLEAR THREAT INITIATIVE

Given the strategic environment described above, the United States must develop and implement a coherent strategy designed to meet a number of different threats. A number of concepts now

compete in universities, think tanks, government bureaucracies, and the international press for acceptance at home and abroad. Of those, two have particular merit and suggest capability requirements for DoD and the Interagency: the Nuclear Threat Initiative and the Nuclear Threat Reduction Campaign. Additionally, the Nuclear Control Institute has raised important questions about International Atomic Energy Agency verification activities that bear consideration when evaluating new concepts.

Founded in January 2001 as a nonprofit foundation, the Nuclear Threat Initiative exists to fill the gap between the threats from nuclear, chemical, and biological weapons and the global response. Co-chaired by former Senator Sam Nunn and Ted Turner, it attempts to foster cooperation amongst diverse people, organizations, and governments around this common threat, and to develop a plan for immediate action. Owing in large part to his considerable experience in the Senate, Senator Nunn has assembled an impressive coalition of able diplomats, scientists, policy experts, and academics. His international Board of Directors consists of members from the United Kingdom, Sweden, Pakistan, Japan, and Jordan to name a few. He also boasts two sitting senators, two members of the Russian Duma, a Nobel Prize winning economist, and a former Secretary of Defense.[37] Together, they have made a cogent argument for how the Bush administration should proceed to win the war on terror and deny weapons of mass destruction to terrorists and rogue states.

The Nuclear Threat Initiative proposal argues that if weapons of mass destruction are in fact the number one threat facing U.S. national security, then the United States should immediately appropriate funds sufficient to reduce the vulnerability—sooner, rather than later. The events of September 11 make it clear that no nation, regardless of geography, economic power, or military might, is secure from or immune to this threat. It is a shared threat and requires a shared solution. Further, since the United States and Russia created the majority of weapons of mass destruction during the Cold War arms race, they should lead what the Nuclear Threat Initiative calls the "Global Coalition Against Catastrophic Terrorism."[38]

In looking for concepts which have worked in the past, Senator Nunn had to look no further than the Cooperative Threat Reduction program. Funded by legislation sponsored by himself and Dick Lugar

in November 1991, the Cooperative Threat Reduction program had been a radical experiment for reducing threats in a cooperative way. In essence, the program tied financial assistance to treaty limited reductions of weapons and infrastructure. It included everything from biological weapons labs, nuclear reactors, and storage facilities to missiles, export controls, and emergency response equipment. It successfully bridged relations between Russia and the United States even when the political winds shifted during Operation ALLIED FORCE. However, more remains to be done. If expanded and shared with other nations, the program could complete the task in Russia and beyond in relatively short order. Thus, the Nuclear Threat Initiative's Global Coalition Against Terrorism poses six urgent tasks for U.S. leadership:

- Secure all nuclear, biological and chemical weapons materials everywhere they exist in the world.
- Reduce the number of U.S. and Russian tactical nuclear weapons, and secure and account for any that remain.
- Build a firebreak against any launch of nuclear weapons by accident or miscalculation by taking as many nuclear weapons as possible off hair-trigger alert in the United States and Russia.
- Strengthen global public health systems, as well as undertake an Apollo-scale research program into vaccines, treatments, and the science of biology, so that medical authorities can immediately respond to infectious disease epidemics occurring naturally or from biological terrorism.
- Establish global norms and standards for handling and scientific use of dangerous biological pathogens to prevent these materials from being used by terrorists.
- Complete the destruction of U.S. and Russian chemical weapons which together account for over 90 percent of all of the world's chemical weapons.[39]

In a related collaboration between Harvard's Kennedy School of Government and Stanford University, the Preventive Defense

Project posits similar approaches to "address the lethal legacy of Cold War weapons of mass destruction, and counter weapons of mass destruction proliferation and potential acts of catastrophic terrorism."[40] Ashton Carter, the co-chair of the Preventive Defense Project, has elaborated his vision of the Nuclear Threat Initiative's global coalition. Patterned after President Bush's coalition against terror, the coalition includes every nation possessing materials that terrorists or rogue states could use in weapons of mass destruction. It extends the reach of every nation around the world and includes those who share an interest in preventing terrorists from acquiring dangerous materials, even if they do not possess an indigenous source. Nations would:

> contribute to the coalitions' activities commensurate with [their] capabilities and traditions, . . . cooperate to combat terror in all phases—prevention, detection, protection, interdiction, and cleanup . . . and agree to world-class standards for protecting fissile material and safeguarding pathogens . . .[41]

Other experts have strongly endorsed the scale of effort envisioned by the Nuclear Threat Initiative. They urge the United States to lead an international effort to establish "stored weapons standards,"[42] for all nations to apply. In order for these:

> . . . stringent international standards to have real teeth, there would have to be some means to confirm, or at least to build confidence, that the standards were being met. Measures toward this end could include exchanges of information about nuclear security procedures and standards, and bilateral or international visits or reviews at selected facilities, with managed access to protect sensitive information.[43]

The development and propagation of an international stored weapons standard, in conjunction with an effort on the scale of the Nuclear Threat Initiative, provides the "gold standard." Having earned certification that a nation has met the standard, the world will begin to have fact-based confidence that materials are secure.

The Nuclear Threat Reduction Campaign, a project of the Vietnam Veteran's of America Foundation, has a similar agenda to the Nuclear Threat Initiative. As the only Congressionally

chartered organization for Vietnam veterans, it has unique access to policymakers to advance its agenda of humanitarian projects emanating from its vision of healing war torn societies, eliminating the threat of landmines to noncombatants, and securing justice for military veterans. The focus of the Nuclear Threat Reduction Campaign, however, is the control of weapons of mass destruction at the source. The Nuclear Threat Reduction Campaign seeks U.S. leadership to secure all weapons of mass destruction in Russia by:

- Developing a comprehensive nuclear inventory in Russia (including tactical/portable weapons) of weapons and materials, and develop data exchanges of American and Russian stockpiles to ensure safe storage and ultimate elimination where appropriate.
- Passing the Debt Reduction for Nonproliferation Act sponsored by senators Lugar and Biden to swap U.S. debt for Russian investment in domestic nonproliferation activities.
- Signing a legally binding agreement with Russia to reduce outdated stockpiles of strategic nuclear weapons held by the United States and Russia.
- Strengthening Cooperative Threat Reduction program funding to secure and neutralize Russian nuclear weapons and materials, and find peaceful employment for Russian Scientists and technicians.
- Reducing the threat of bio-terrorism by expanding existing programs and developing mechanisms to strengthen cooperation to prevent proliferation of biological weapons, materials, and expertise.[44]

In essence, the Nuclear Threat Reduction Campaign champions the expansion of the Nunn-Lugar-Domenici legislation which expands the scope and funding of the Cooperative Threat Reduction program in Russia. Ambassador Karl Inderfurth, former Assistant Secretary of State for South Asian Affairs from August 1997 to January 2001, serves as the Nuclear Threat Reduction Campaign Senior Advisor. In his testimony before the Senate Foreign Relations

Committee hearing on the Strategic Offensive Reductions Treaty (SORT, a.k.a. Moscow Treaty), Ambassador Inderfurth stated that "We simply will not rid the world of the greatest threat to humanity until all of Russia's nuclear weapons and material have been accounted for and secured."[45] He also called for transparency and verification imperatives missing from the Strategic Offensive Reductions Treaty. Finally, he cited Senator Nunn's testimony and recommended verification procedures for the 3-year gap that exists between the 2009 expiration of Strategic Arms Reduction Treaty verification provisions and the 2012 Strategic Offensive Reductions Treaty expiration for which no other verification provisions currently exist.[46]

Both the Nuclear Threat Initiative and Nuclear Threat Reduction Campaign agree on the need to attack the threat of weapons of mass destruction proliferation at the source. However, while the Nuclear Threat Reduction Campaign constrains its policy recommendation to a bilateral prescription, the Nuclear Threat Initiative uses bilateral achievements to establish a worldwide, multilateral coalition that harnesses the shared interests and vulnerability of citizens and governments around the world. Given the early successes of Bush's coalition against terror, the Nuclear Threat Initiative's global coalition should have similar success being led by both the United States and Russia.

From Spain's interception of the ballistic missiles en route from North Korea to Yemen, the participation of NATO countries in Afghanistan, and the broad intelligence cooperation leading to the arrest of suspected terrorist cells from Canada to the Philippines, the shared threat of terrorism unifies nations across the political landscape. Consistent with the international cooperation required to make it successful, the Nuclear Threat Initiative has sought to bolster the International Atomic Energy Agency to place extant nuclear materials under International Atomic Energy Agency safeguards with adequate funding to accomplish the massive task. Given International Atomic Energy Agency's track record, however, careful consideration should be given to ensure the International Atomic Energy Agency's responsibilities are limited to its areas of demonstrated competence.

The Nuclear Control Institute has long been a critic of the International Atomic Energy Agency for its performance in Iraq and North Korea. As described earlier, the International Atomic Energy Agency repeatedly failed to detect covert activity in both cases. Steven Dolley, the Nuclear Control Institute's Research Director, published an in-depth analysis of nuclear inspection in Iraq entitled "Iraq and the Bomb: The Nuclear Threat Continues." He described the friction that developed between the United Nations Special Commission on Iraq inspectors and International Atomic Energy Agency inspectors.[47] The United Nations Special Commission on Iraq included members of the U.S. On-Site Inspection Agency (now part of the Defense Threat Reduction Agency), military professionals with extensive inspection experience. Consequently, its inspectors approached their task in a tough, hard-nosed manner. Rolf Ekeus, the Chief Executive Officer for the United Nations Special Commission on Iraq in 1997, stated that his inspectors were ". . . by nature suspicious."[48] Their approach represented an understanding that if Iraq had in fact solved the warhead design problem, then it had the technology to create a viable implosion weapon, a significantly greater threat. In truth, in comparison with the IAEA, the United Nations Special Commission on Iraq was "more confrontational, refusing to accept Iraqi obfuscations and demanding evidence of destroyed weapons."[49]

By contrast, the International Atomic Energy Agency inspectors approached inspections from a completely different point of view. Theirs was a cooperative, collegial approach between members of a shared scientific community. Since both the United Nations Special Commission on Iraq and the International Atomic Energy Agency conducted nuclear inspections, the friction became a major impediment to agreement on key findings and observations. After leaving the United Nations Special Commission on Iraq, Ekeus stated that "better coordination and consultation between the two agencies would be required if the remaining questions about the Iraqi program are to be answered."[50] Nevertheless, the United Nations Security Council awarded the nuclear inspection portfolio to the International Atomic Energy Agency, with U.S. support, to advance the extension of the Nuclear Nonproliferation Treaty.

The conventional wisdom asserted that giving United Nations Special Commission on Iraq the mission would have undercut the International Atomic Energy Agency and irreparably damaged the Nuclear Nonproliferation Treaty at a time when its survival was in question.

To compound matters, the International Atomic Energy Agency "seems to place an almost naïve confidence in the absence of evidence contradicting unsubstantiated Iraqi claims" when the presumption should be to continue investigation until evidence mounts to positively and conclusively confirm Iraqi claims of compliance.[51] As an example, Ekeus considered it reasonable to demand evidence confirming the destruction of nuclear components in his 1997 statement holding the Iraqi's accountable for providing such proof:

> Iraq produced components, so to say, elements for the nuclear warhead. Where are the remnants of that? They can't evaporate . . . We feel that Iraq is still trying to protect them. And that is part of our . . . efforts . . . to find these remnants . . . We know that they have existed. But we doubt they have been destroyed. But we are searching.[52]

Such an approach runs counter to International Atomic Energy Agency values. As a result, the Iraqis were able to conduct covert activities with impunity. Thus, Ekeus and Dolley correctly fault the International Atomic Energy Agency culture for the success of Iraqi covert activities while under safeguards, before and after DESERT STORM. As a result, suggestions to use the International Atomic Energy Agency under circumstances which require it to act contrary to its nature is a flawed proposition with predictable results. The Agency does most things well. However, conducting inspections and monitoring safeguard programs for nations likely to pursue covert development programs and would-be proliferators are not among its strengths.

In contrast, the United Nations Special Commission on Iraq-like organizations does possess the requisite competence and appropriate disposition to successfully serve U.S. interests in countries with dubious intentions and track records. The United States should

retain the ability to resource the United Nations Special Commission on Iraq-like international inspectorates to ensure its interests are protected. [As a note, the pre-Operation IRAQI FREEDOM United Nations Monitoring and Inspection Commission did not pass this test. Hans Blix, the Executive Chairman of the Commission, served as the International Atomic Energy Agency Director General from 1981 to 1997, the period in question. His appointment, along with Iraqi protests precluding the United States from contributing inspectors that would meet the standard above, rendered the United Nations Monitoring and Inspection Commission impotent, incapable of accomplishing the formidable task of conducting successful inspections 4 years after Iraq expelled inspectors in 1998.]

The policy proposals from the Nuclear Threat Initiative, Nuclear Threat Reduction Campaign, Preventive Defense Project and the Nuclear Control Institute, combined with the Bush administration's declared strategy, make a clear case for retention of key arms control capabilities resident in DoD and her sister departments of State, Energy, and Justice. Rather than relegate arms control to the past as a Cold War relic, these proposals demand proven capabilities for traditional verification activities through 2012.[53] More importantly, the Nuclear Threat Initiative argues the application of arms control concepts to a broader, more pressing array of threats and scenarios.

CHANGING DIRECTIONS: MEETING THE NUCLEAR CHALLENGE

In December 2002, the Bush Administration published its *National Strategy to Combat Weapons of Mass Destruction*. It contains the administration's growing appreciation of the need to combat weapons of mass destruction at the source, as well as the requirement to respond to use against the United States and its allies. The strategy contains three main pillars. Of the three, "Strengthening Nonproliferation to Combat Weapons of Mass Destruction Proliferation" directly captures the U.S. commitment to reengage in multilateral and bilateral arrangements with the necessary provisions to make them effective. In addition to urging the broader international community to prevent terrorists from acquiring weapons of mass destruction, the administration pledges to ". . .

enhance traditional measures—diplomacy, arms control, multilateral agreements, threat reduction assistance, and export controls—that seek to dissuade or impede proliferant states and terrorist networks . . . and ensure compliance with the Nuclear Nonproliferation Treaty, the Chemical Weapons Convention, and the Biological Weapons Convention."[54] More significantly, the strategy commits the United States to "support those regimes that are currently in force, and work to improve the effectiveness of, and compliance with, those regimes . . . and will also promote new agreements and arrangements that serve our nonproliferation goals."[55] In the nuclear arena, U.S. goals include:

- Strengthening of the Nuclear Nonproliferation Treaty and International Atomic Energy Agency, including, through ratification of an International Atomic Energy Agency additional protocol by all Nuclear Nonproliferation Treaty states parties, assurances that all states put in place full-scope International Atomic Energy Agency safeguards agreements; and appropriate increases in funding for the Agency;
- Negotiating a Fissile Material Cut-Off Treaty that advances U.S. security interests; and
- Strengthening the nuclear suppliers Group and Zangger Committee.[56]

These measures demonstrate the administration's recognition that working within international frameworks constitutes an indispensable component of U.S. strategy. Combined with unilateral and bi-lateral commitments, they contribute to a wide range of options from which to choose. Further, they acknowledge that solving global problems requires U.S. leadership, enforceable legal constructs and international norms, and a global strategy. It includes expanding efforts such as the Nunn-Lugar Cooperative Threat Reduction program and the G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction " . . . designed to address the proliferation threat stemming from the large quantities of Soviet-legacy weapons of mass destruction and missile related expertise."[57]

In sum, the Bush Administration's shift in policy, as articulated in both the *National Security Strategy* and *The National Strategy to Combat Weapons of Mass Destruction,* necessarily requires a review of Department of Defense programs and policies, joint and service organizations, and doctrine and training to achieve the President's policy objectives. As a starting point, the review must begin with the issue as to whether the Defense Threat Reduction Agency possesses the capabilities to match the counterproliferation and nonproliferation policies that flow from the President's strategy. The On-Site Inspection Directorate, the arm of the agency that implements arms control and nonproliferation policies through on-site inspections and technical assistance, must adapt to the changing security environment, new strategic imperatives, and the changing face of on-site inspections.

The history of on-site inspections between the United States and the Soviet Union (and its successor states), the widely acclaimed Cooperative Threat Reduction program, as well as the United Nations Special Commission to Iraq, suggests the existence of three distinctly different classes of inspections defined by level and degree of cooperation. Ranging from obstruction and clear opposition at one end and cooperative partnership on the other, one can best categorize them as *adversarial, reciprocal,* and *cooperative* on-site inspection regimes.

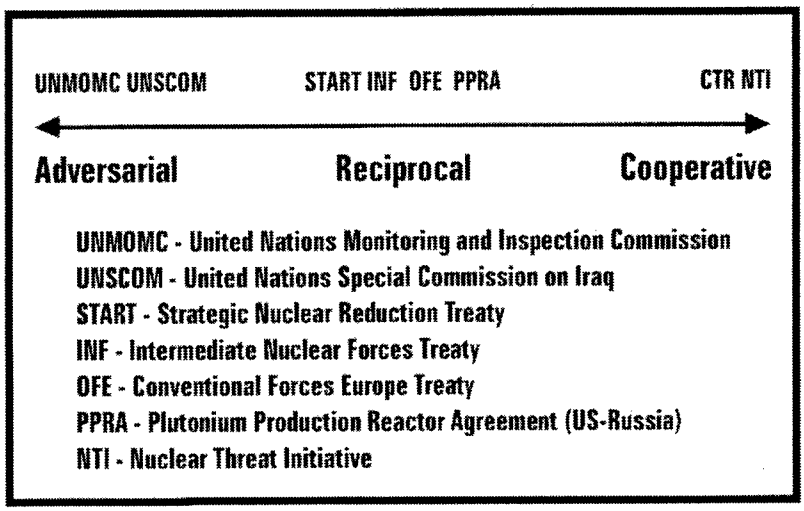


Figure 1. On-Site Inspection Continuum.

They possess different characteristics and limitations and serve different purposes. Understanding the differences should enable force developers and planners to size, train and equip forces to accomplish the missions flowing from the strategy. At the operational level, understanding the differences will enable leaders to properly tailor on-site inspections to suit the political context of each situation. Finally, given the defense Department's leading role in the *National Strategy to Combat Weapons of Mass Destruction,* it should immediately structure on-site inspection forces to satisfy the peculiar requirements of all three classes of nuclear on-site inspection regimes.

Adversarial On-Site Inspection.

In the aftermath of the Gulf War, the United Nations Security Council developed and implemented an on-site inspection regime following the coalition victory over Iraqi forces in 1991. Imposed on a militarily defeated Iraq, United Nations inspections achieved significant, though far from complete results. Reluctantly, Iraq submitted to inspections under duress and the threat of force. According to Robert Gallucci, former United Nations Special Commission Deputy Executive Director from 1990 to 1991, inspectors enjoyed 5-6 years in which inspections were "incredibly effective."[58] He attributes their effectiveness to a unified United Nations Security Council (particularly the permanent members), popular support in the region, support of the international community and the United States, and the threat of hostilities.

These conditions describe a political context in which on-site inspection can be effective with an adversarial, noncooperative government. Inspectors verify government declarations and "discover" undeclared activity based on a presumption of deceit, lies, and the existence of covert activity, materials and programs. However, analysis of U.N. activities in Iraq suggests three factors which will determine the effectiveness of adversarial inspections.

Adversarial inspections must be backed-up by a *credible* threat of force (or equivalent sanction depending on the nature of the political regime), time to discover hidden activity, and, most importantly, political resolve (or strong consensus in a multilateral context).

The discovery function, indispensable in adversarial inspections, is inherently intrusive and depends on a credible, coercive threat to submit to inspections. As demonstrated in fall 2002, the threat of force under United Nations Resolution 1441 led Iraq to accept inspections after successfully ridding themselves of inspectors in 1998. Diplomatic efforts in 1998, and others in subsequent years, failed to convince Iraq that it was in its interest to permit inspections. Adversarial inspections also require time. As Iraq demonstrated in the years following the Gulf War, nations that grudgingly submit to inspections can delay the process for years. Had Iraq been forthcoming in its declarations, the United Nations Commission on Iraq could have completed its work in work in far less time and with higher confidence. Instead, adversarial on-site inspections took years to piece together intelligence reports, interview scientists and officials willing to trade information for security guarantees, review documents, and investigate sources for acquiring dual purpose technology with which to conduct their work. Consequently, adversarial inspections are investigative in nature and require sufficient time to investigate all potential leads.

Finally, the most important requirement for adversarial inspections to be effective is political will, the support of government and the people. In his unfinished work *On War,* Carl von Clausewitz established that war and the use of force is an extension of policy and exists within the framework of a trinity: the nation, its army, and its people.[59] The policy to remove weapons of mass destruction from Iraq possessed the support of the international community and popular support among people around the world. Consequently, the United Nations under U.S. leadership possessed the will to use force to back inspections, regardless of Iraqi obstructions. As a result, the inspectors successfully discovered and destroyed many of Iraq's programs to develop weapons of mass destruction in an investigative approach that defined the scope and size of their efforts. However, before completing the task of destroying Iraq's capabilities and all its weapons, the political will within the Security Council dissipated, and the threat of force ceased to be credible. In the end, Iraq successfully exhausted the will of the international community, expelled the inspectors, and resumed its weapons programs unfettered by the United Nations. The confidence generated by years

of successful discovery and subsequent destruction of weapons of mass destruction in Iraq quickly faded.

Clearly, adversarial inspections serve a unique set of conditions among on-site inspection regimes. However, it depends upon the synergy gained by a credible threat of force, adequate time, and political resolve. The absence of any one will preclude success. Above all, the often temporary nature of political consensus may undercut the regime before it fulfills its mandate. Rogue states intent on pursuing weapons of mass destruction will undoubtedly resist efforts to curb their programs, especially on-site inspection. Nevertheless, the United States and the international community should pursue diplomacy, and if necessary force, to compel states like Iraq to submit to on-site inspections and to remove such weapons.

However, even when all three factors of force, time, and resolve are present, the results only remain valid for the duration of the inspection regime, absent a change in national goals. This is particularly true with adversarial on-site inspections. As Gallucci has made clear, "There is no way they can have a permanent clean bill of health. They don't enter a state of grace . . ."[60] Therefore, adversarial on-site inspection only provides confidence for the life of the inspection regime. Whether resulting from diplomatic, economic, or information elements of power, internal policy changes must occur within the inspected state that preclude a resumption of a weapons program. Additionally, willing submission to a *strengthened* monitoring regime of any and all activities (as envisioned under the Strengthened Safeguards protocol), connected with a weapons program, will provide the confidence necessary to secure Gallucci's "clean bill of health."

Reciprocal On-Site Inspection.

The history of the Intermediate Range Nuclear Forces Treaty, and more recently the Strategic Arms Reduction Treaty, defines reciprocal arms control regimes forged between the United States and the Soviet Union during the Cold War. President Reagan captured the governing ethos of reciprocal inspections in the phrase, "Trust but Verify"—the motto of the On-Site Inspection Agency.[61]

Concluded between peer competitors which viewed reductions in their mutual interest, these bilateral agreements depended upon on-site inspections supported by intelligence reports and national technical means. Together, they provided the requisite confidence that both sides had complied with their treaty obligations. Aided by Perestroika, Glasnost, and the demise of the Soviet Union, treaty compliance verified by on-site inspections contributed to the creation of a new security environment characterized by Russian and U. S. security cooperation. The Strategic Arms Reduction Treaty between the United States and Russia, Ukraine, Belarus, and Kazakhstan exemplifies the reciprocal class of on-site inspections. Each side possesses intrusive options to verify the other's claims, declarations, and activities.

Reciprocal inspections, therefore, will remain an important class of on-site inspections for the foreseeable future as Russia and the United States continue to eliminate nuclear weapons in excess of their deterrence needs. As weapon dismantlement continues and requirements for transparency increase, fissile material storage and inspections will lend themselves to reciprocal inspections. Experts from both countries have made considerable progress in finding ways to technically inspect pits, whose shape and composition are protected information. They demonstrated nondestructive assay and shape measurements which could support transparency regimes and provide confidence without compromising classified data.

As more and more nations unveil nuclear programs and weapons, the United States should seek access through some form of reciprocal inspection regime. Obviously, nations that pursue weapons for regional security such as Pakistan and India should enter into bilateral treaty regimes with each other. The United States should use its prestige to pass on-site inspection expertise along to both sides via military to military programs. If successful, those efforts could foster transparency, build confidence and security, and decrease tensions in the region.

Cooperative On-Site Inspection.

Cooperative on-site inspection, the third class of inspections, secured its place as a legitimate confidence building mechanism

with the creation of the Nunn-Lugar Cooperative Threat Reduction program. Based on a shared interest in eliminating weapons identified in the Strategic Arms Reduction Treaty, the United States agreed to provide financial assistance at a time when the economies of the Soviet Union's successor states lacked resources to accomplish treaty reductions. After 10 years of substantial gains, the Cooperative Threat Reduction program provides the intellectual foundation for the larger, more aggressive Nuclear Threat Initiative. This class of on-site inspection depends on Congressional authorizations and commitment to finance and foster desired behaviors in cash-strapped countries. To satisfy Congressional oversight, countries receiving U.S. assistance must permit on-site inspections (called audits) and examinations under the Cooperative Threat Reduction program, to ensure the use of assistance as intended. The Nuclear Threat Reduction Campaign advocates increasing investment in Russia's efforts to control weapons of mass destruction materials, a commitment now embodied in the President's strategy. The Nuclear Threat Initiative seeks to expand this program to developing, resource-poor countries with materials arising from the peaceful uses of nuclear energy.

Cooperative on-site inspection tends to be as intrusive as reciprocal inspections, but without the characteristic resistance. Rooted in a shared interest in reducing the threat posed by nuclear weapons and materials, nations (and their agents) receiving U.S. assistance, often feel comfortable expressing gratitude and work to ensure inspectors gain the requisite access to satisfy inspection requirements. Even during times of enormous strain between Washington and Moscow, the Cooperative Threat Reduction program functioned well, since neither side was willing to jeopardize the program. Access, therefore, is the key to satisfying on-site inspections. In most cases, U.S. assistance is sufficient to garner access. However, sovereign nations may choose to protect locations and sensitive information. In those instances, the United States must seek alternative means to formulate conclusions on intended use. Policymakers must determine whether the alternative methods are adequate to formulate those conclusions. If inadequate, they must choose to either withdraw assistance in those instances, or provide it knowing that access will not be forthcoming during

on-site inspections. Consequently, determining access prior to awarding assistance should occur with each project in which the United States provides assistance to reduce the threat of weapons of mass destruction under the Nuclear Threat Initiative.

In all three classes of on-site inspection, the United States may determine that bilateral inspections satisfy its interests. In most reciprocal arrangements, bilateral inspections are the only option. Cooperative arrangements, as envisioned by the Nuclear Threat Initiative, would quickly exceed the capacity of the United States government to accomplish unilaterally. Consequently, the Nuclear Threat Initiative advocates initial U.S. (and Russian where possible) leadership to start the process. Once programs mature and have satisfied Congressional interests, they should move on to a multilateral regime. As the new strategy to defeat weapons of mass destruction clearly states, the United States must engage the international community and organizations such as the International Atomic Energy Agency to accomplish this global mission. Accordingly, the Nuclear Threat Initiative envisions a transition from bilateral agreements and inspections with the United States, to existing or adapted International Atomic Energy Agency protocols and international monitoring.

Commensurate with the goal of securing all weapons and materials of mass destruction, on-site inspection must encompass a wide array of programs. Whether military or civilian, commercial or academic, these programs must conform to standards of accountability, security, and inspection that preclude use by terrorists. Scientists and engineers use nuclear material in reactors to produce commercial power, conduct medical research and treatment, and power ships and submarines. Centrifuges and reprocessing facilities enable governments to produce highly enriched uranium and plutonium, respectively. States must therefore account for, store and immobilize material from spent fuel rods, reprocessed plutonium oxide, enriched uranium and nuclear warheads from decommissioned weapons. Domestically, DoD, the Department of Energy, and the Nuclear Regulatory Commission perform these functions within their respective sectors. Nations without sufficient resources or mature agencies will likely look to the United States to assist them in building the capacity to deny materials from each

sector to terrorist organizations.

Figure 2 summarizes the three types of on-site inspection and the characteristics that define each type. The distinctions of purpose, context, and inspector roles require capabilities within the U.S. Government to satisfy each regime. The skills necessary to verify whether assistance provided to secure materials is adequate, differ from those designed to ascertain the scope and breadth of covert weapons programs. Likewise, the mindset suited to a political context in which nations coerce others to accept inspections differs from the context in which nations seek both assistance and inspections to demonstrate their participation in the global effort to defeat terrorism. Thus, the United States should aggressively resource the Nuclear Threat Initiative and the recommendations of the Nuclear Threat Reduction Campaign, with the capabilities necessary to execute the strategy.

REGIME	ADVERSARIAL	RECIPROCAL	COOPERATIVE
Purpose	Dismantle programs and destroy weapons	Reduction oriented	Secure materials and reductions
Political Context	Post/pre-conflict adversaries	Treaty-defined partnership	Cooperative, strategic partnership
Consent	Coerced, compelled by threat	Negotiated by treaty or agreement	Access given for assistance
Inspections	Unlimited	Treaty limited	Agreement limited
Inspectors	Discover weapons and programs	Verify compliance	Verify intended use for assistance

Figure 2. On-Site Inspection Regimes.

THE NUCLEAR AND COOPERATIVE THREAT REDUCTION BRANCH

With this new direction in combating weapons of mass destruction, DoD, in cooperation with its sister Departments of State,

Energy, and Justice, has the ability to implement the president's strategy through the Nuclear and Cooperative Threat Reduction Branch of the Defense Threat Reduction Agency. Reduced in size in 1998 as a result of a questionable agency strategic review, it should now constitute the core of DoD's efforts to respond to the President's renewed commitment to defeat the threat at the source.

The Defense Threat Reduction Agency leverages the services and the Interagency to provide the capabilities required by the Nuclear and Cooperative Threat Reduction Branch to perform current missions. The expanded on-site inspection tasks suggested by the Nuclear Threat Initiative will increase the importance of assembling the appropriate on-site inspection expertise:

- Intelligence expertise in state and nonstate actors analogous to Soviet foreign area officers (e.g., "order of battle" experts with regional [historical and cultural] expertise).
- Nuclear physics and engineering expertise in reactor technology, weapons design and assembly, and storage requirements sufficient to inspect production and storage facilities.
- Missile, submarine, bomber, and customs and export control expertise.
- Competence in the implementation of relevant nuclear treaties and agreements, bilateral and multilateral.
- Linguists capable of consecutive interpretation and translation, and with technical and conversational ability in the languages of treaty parties.

Personnel with capabilities identified above need not come entirely from DoD. Instead, personnel should come from agencies whose core competencies coincide with needed skills and expertise. In light of growing interagency integration down to and including combatant command staffs, DoD must increasingly leverage interagency capabilities, as it structures the nuclear branch, while simultaneously increasing the number of military members assigned to sister agencies in complementary programs. As an example,

DoD should provide officers to the Department of Energy in fissile material physical protection, control and accountability (MPC&A) programs that broaden the experience of nuclear specialty officers. In the end, critical capabilities increase, cultural barriers fall, and most importantly, the United States increases its security by denying weapons of mass destruction to terrorists and rogue states.

The administration, Congress, and the American people look to the Defense Department for its ability to train and develop leaders and disciplined professionals: weaponeers, nuclear research and foreign area officers, and linguists. Similarly, the Department of Energy possesses the deepest technical base and should be the primary, though not only, supplier of nuclear scientists and engineers. The U.S. intelligence community should provide the intelligence analysts to work alongside military foreign area officers. Likewise, the Department of State should provide state and regional studies experts as well as expertise in diplomacy. As a result, the Nuclear and Cooperative Threat Reduction Branch will be a joint and interagency organization consisting of military and civilian government employees with the ability to incorporate contractors where appropriate. It should remain within DoD for the same reasons that led President Reagan to place it there in 1987: its worldwide infrastructure to support implementation and its ability to organize, train and lead inspection teams under often difficult and adverse circumstances. Further, DoD's reputation as the world leader in treaty verification activities stems from its extensive experience with the Soviet Union and its successor states.

Finally, as a consequence of its competence in performing its core missions, the nuclear branch must also have the ability to augment or parallel international inspectorates (such as the International Atomic Energy Agency or United Nations Monitoring, Verification, and Inspection Commission), where necessary to satisfy U.S. interests. The branch will possess the ability to implement verification activities across all three classes of on-site inspection regimes. It will be able to support international arrangements and implement a variety of instruments, bilateral and multilateral, treaty and confidence building.

In sum, the events of September 11 have led the Bush administration to review its strategy for combating terrorism and

weapons of mass destruction. DoD has a leading role beginning with defeating the threat at the source, before materials find their way into the hands of terrorists and states intent on harming the United States or her allies. To accomplish this task, the services must provide quality personnel with the requisite background and performance to implement on-site inspections in adversarial, reciprocal, and cooperative inspection regimes to accomplish U.S. security objectives globally.

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