HALT PHASE STRATEGY:
NEW WINE IN OLD SKINS. . .
WITH POWERPOINT

Earl H. Tilford, Jr.

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FOREWORD

Interservice rivalry is a part of the modern American military experience. It seems especially intense in periods when technology advances during times of fiscal plenty and, perhaps, even more intense when rapid technological change takes place at a time of fiscal constraint. With the Revolution in Military Affairs coinciding with declining defense budgets, each of the armed services has presented its vision of what its particular mission and structure should be for the 21st century. Army After Next, Sea Dragon, and Air Force Next all make compelling cases for land power, sea power, and air power.

In this monograph, Dr. Earl H. Tilford, Jr., analyzes the Halt Phase Strategy/Doctrine currently advocated by the Air Force. As a part of his analysis, the author traces the immediate origins of the "Halt" strategy to the aftermath of the 1997 *Report of the Quadrennial Defense Review*. Dr. Tilford contends, however, that Halt's real origins are more closely identified with intrinsic Air Force strategic bombing doctrine, and are to be found in strategies associated with atomic and nuclear deterrence and warfighting. Thus, he concludes that Halt is really "new wine in old skins" being presented today more aggressively because of rapid technological advances.

Many will disagree with Dr. Tilford's conclusions, and air power enthusiasts are sure to take exception with him. But the tension generated by opposing points of view is part of how we advance through open and honest debate. In that spirit, I commend to you *Halt Phase Strategy: New Wine in Old Skins. . . With Powerpoint.*

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BIOGRAPHICAL SKETCH OF THE AUTHOR

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> It's worth noting that decisions we make about our military forces today will affect their ability to respond to crisis 20 years from now, when there may be a danger of catastrophic failure.[1]
>
> Charles G. Boyd, Jr.
> General, USAF (Retired)
> October 31, 1997

Introduction.

The defense intellectual community is currently engaged in a heated debate over alternative future strategies. The outcome of this debate may well shape the kind of forces with which the United States will maintain its security well beyond the first quarter of the 21st century. The debate has engaged a broad spectrum of the community and, despite being sometimes advanced by the latest in "Powerpoint" slide briefing techniques, really revolves around old issues surrounding the role of air power and is fostered by the even older motivation of a scramble for limited budget resources. At the center of the debate is a concept called the "Halt Phase Strategy/Doctrine," or more simply, "Halt."

Proponents of Halt advocate using joint air power as the primary or supported force in the first few days of a conflict. This strategy would be especially critical in a second major theater of war (MTW) when American ground forces are already heavily committed to a first theater. It would also be viable as a response to the primary aggression if the aggressor attacked with mechanized forces across open terrain. Halt proponents claim that air power can stop enemy forces short of their objective in about 2 weeks. Once the enemy force has been stopped, the theater commander-

in-chief (CINC) can use air power to dominate the battlefield or, if appropriate, attack critical targets in the enemy's rear or homeland, while bringing additional forces into the theater for "countering action" (formerly known as the counteroffensive). If needed at all, a counterattack by land and air forces would be a kind of mopping up operation since the issue would have been decided in the Halt Phase. Halt proponents maintain that this strategy offers a more effective and efficient way of warfighting, one that will save not only American lives but also resources.[2] Since the Halt Strategy calls for a significant reduction in the size of the Active Component of the U.S. Army, it has caused a great deal of consternation and internal discussion within the defense community. Although Halt's primary proponents couch their rhetoric in terms of "joint airpower," this is a service parochial, Air Force initiative.

First indications that the Air Force was becoming wary of the possible outcome of the Quadrennial Defense Review (QDR) surfaced in a March 1997 article in *Armed Forces Journal* entitled, "Assessing Airpower's Importance: Will the QDR Debate Falter for Lack of Proper Analytical Tools?". The author, Air Force Lieutenant Colonel Steve McNamara, claimed that the capabilities of air power so dramatically witnessed in the Gulf War had not been properly recognized. According to the author, the problem is that "The current generation of mathematical models does not capture the asymmetric contributions of airpower."[3] Specifically, TACWAR, the standard campaign model used by the Department of Defense and the Joint Staff, failed to fully demonstrate the potential contributions of air power.[4]

Then in May, the *Report of the Quadrennial Defense Review* was released, and the Air Force was not pleased with its recommendations. It suffered 26,900 personnel cuts as against 15,000 for the Army and 18,000 for the Navy. Worse, favored weapons programs were hit hard. The F-22 fighter program was reduced from 438 to 339 aircraft; the B-2 bomber program was capped at 21 aircraft, and the Joint Surveillance Target Attack Radar System (JSTARS)

surveillance aircraft procurement program was reduced from 19 to 13 aircraft.[5]

The Debate Emerges.

On June 26, 1997, the Honorable Sheila E. Widnall, then Secretary of the Air Force, hosted a Washington breakfast to discuss the Air Force's perspective on the recently released report. During this breakfast meeting, Air Force Major General Charles D. Link, who before his retirement in the autumn of 1997 was Special Assistant to the Chief of Staff for the National Defense Review, unveiled the Halt Phase Strategy/Doctrine. This Halt doctrine serves as the catalyst for the current debate.[6]

In the autumn the controversy intensified when, on October 29, 1997, the prestigious Center for Strategic and International Studies (CSIS) presented a "Clashes of Vision Symposium" with the specific title, "Responding to Aggression: Boots on the Ground vs. Technology." Major General Link again presented the Halt Phase Strategy, but this time as a part of a panel which included retired Marine Corps Lieutenant General Paul Van Riper and Army War College Commandant, Major General Robert H. Scales, Jr.[7] In June 1998, CSIS sponsored a follow-up symposium entitled, "Dueling Doctrines and the New American Way of War." In part, the stated purpose of this second symposium was as "a reprise of last October's 'Boots on the Ground vs. Technology' " conference.[8]

The two CSIS conferences are part of the Air Force response to the recommendations of the QDR and National Defense Panel (NDP), which contrasted sharply with Air Force experience. In the 51 years of its existence as a separate service, the Air Force had dominated the other services in the scramble for budget dollars. It did so by focusing on technology as the key to fighting war both more effectively and with less expenditure in human lives.

Today, as in the past, technology-inspired buzzwords, like "precision strike" and "information dominance," provide the rhetoric for the debate. In the 1950s the buzzwords were "atomic superiority" and "nuclear deterrence." Furthermore, the Air Force, more than any other service, traditionally has focused on the potential of its form of warfare to be "decisive."

Despite the previously successful rhetoric, the reality is that air power has yet to be the single decisive instrument in any war. Nevertheless, to the uninitiated, the idea that air power can deliver victory quickly and at a lower price in human and economic resources is a seductive one. But historically, the record indicates that a misplaced emphasis on air forces costs lives. In 1950 it meant that an Army of ten under-manned divisions was ill prepared for war in Korea. In the early 1960s the Army that went into Vietnam did so with equipment and doctrines only marginally improved from those of World War II.[9] Today the Army is smaller than it was in 1950 and some contend that it is approaching a state of fragility.

Halt: What's New? What Can it Do?

The New Wine.

Halt, in its current iteration, is based upon a claim that, with air and space-based sensors, anything on a battlefield can be located and then destroyed with precision guided munitions. This assertion is buttressed by a peculiar interpretation of the Battle of Khafji during the Persian Gulf War and by DELIBERATE FORCE, a 3-week air campaign in the fall of 1995 that some air power advocates claim played a decisive role in Bosnia. If the arguments presented are valid, then indeed the United States is ready to embark on a new national defense strategy built around air power.

According to Halt advocates, our current strategy is based on the outdated Cold War relationships between

manpower and firepower whereby air power and artillery support ground operations. But advances in technology now make it possible to move away from the old way of fighting wars. Halt advocates further claim that the U.S. Army, while only the eighth largest in the world, bases its war plans on fighting "manpower-intensive" battles with other large armies around the world.

Furthermore, U.S. defense strategy is currently based on conducting two different major theater wars taking place at almost the same time in separate locations. For each war, but most especially for the second theater, the current strategy would be to halt the invasion and then build up U.S. combat power while air power continues to attack enemy forces. When sufficient land forces arrive, a counter-offensive by land and air forces would decisively defeat the enemy. While air power plays a key role up front in blunting and even stopping the enemy offensive, ground forces, supported by air forces, deliver the decisive blow in the counter-offensive phase.

The Halt Phase Strategy/Doctrine, by contrast, focuses on using air power as the primary force early in a conflict. With superior knowledge and deadly precision, air power, according to Halt advocates, can reduce an attacking enemy force to the point that its offensive is stopped, and it is unable to conduct coherent, cohesive operations. Air power causes the enemy force to culminate early in the action, long before significant ground forces arrive to engage the enemy.[10]

With enemy forces checked, if not in disarray, halt proponents argue, the theater CINC then has a variety of options. One is that the bulk of the air assets can then be used to disable the enemy regime by attacking the defense infrastructure to include headquarters, supply depots, and manufacturing facilities. Or the CINC can use air power to shut off electricity, cripple internal transportation systems, and otherwise hit targets that would disrupt the enemy's war-making ability.[11]

A second option offered by Halt advocates would be to build up ground forces in preparation for the decisive counteroffensive. In the second theater, with most of the active duty forces already engaged in the first theater, Reserve Component (RC) forces would be used. Once they arrive in theater, a major air-land counteroffensive would be launched.

A third option would be to impose diplomatic and economic sanctions while air power pounds the remnants of an enemy army. In reality, some combination of all three of these options might be used, depending on the situation. In any event, even if a ground campaign is necessary, the number of ground forces needed would be smaller than the number required had air power not already significantly degraded enemy capabilities.

Optimally, Halt would work best when the enemy force operates in open terrain and relies on massed mechanized or armored forces. Currently, this capability best addresses three potential enemies: Iraq, Iran, and North Korea. This strategy offers the greatest chance of success against an enemy that primarily uses Cold War legacy weapons systems and does so without significant land-based anti-aircraft assets or a robust air force of its own. With the Halt Phase Strategy/Doctrine as the foundation for the national security strategy of the United States, we would be best prepared for war with Iraq, Iran, and North Korea.

Ostensibly, that is what Halt is supposed to accomplish. Halt, which is not a new concept, has its roots in both history and technology. Halt is, indeed, touted as a new operational concept by those who are pushing to make it the centerpiece of the National Military Strategy in the 21st Century. But, is it really just "new wine in old skins"? Link, in his presentation to CSIS in October, stated that air forces can successfully implement the Halt strategy now, and could certainly do so in the future. "The forces we have today and are going to have in 2006, can actually constrain or deny land forces freedom of action."[12]

As indicated earlier, the immediate roots of Halt are based on how the Air Force interprets two recent operations: the Battle of Khafji during the Persian Gulf War and DELIBERATE FORCE. Looking first at the Battle of Khafji, the Air Force's chief historian, Dr. Richard P. Hallion, claimed in his book, *Storm Over Iraq: Air Power and the Gulf War*, that the war marked the ascendancy of air power in warfare. Certainly air power played an absolutely critical role in the outcome of the war, and even a dominant role in preparing the battlefield during a 39-day air attack on mostly stationary Iraqi forces. Still, when the ground offensive began, the Iraqi Army remained a formidable force of 1,772 tanks, 900 armored personnel carriers, and 1,474 artillery pieces according to the Gulf War Report.[13]

Hallion claimed also that the Battle of Khafji "was not a totally clearcut case of a victory through air power, but it came very close—close enough for the point to be argued with vigor."[14] Six years later, the Battle of Khafji has emerged as an "epic." What Hallion 6 years ago depicted as an attack by three brigades of Iraqi armor, Dr. Rebecca Grant in a February 1998 article in *Air Force Magazine* dubbed as an attack by "Forces from Iraq's 5th Mechanized Division and 3d Armored Division . . ."[15] Without actually saying so, Grant's article intimates that air power halted a multi-division attack. But the facts present a different picture. The attack involved only three brigades spread out over a 60-mile front. The Iraqi armored units had little indigenous air defense such as surface-to-air missiles (SAMs) or anti-aircraft guns, and, of course, the Iraqi Air Force had long since been taken out of the picture. Eventually, the Iraqi Army moved 15 kilometers and occupied the undefended village of Khafji with one armored brigade of 2,000 men and 50 tanks. Once in the town, the Iraqis had to be ejected by land forces.

Undoubtedly air power played an important role. The destruction of large portions of the three attacking brigades had a great deal to do with Iraq abandoning plans to commit

the remainder of its forces from the Iraqi 5th Mechanized and 3d Armored Divisions. Allied air power, along with Coalition artillery, to include use of the Multiple Launch Rocket System, and JSTARS, wreaked havoc on the committed units. But one must keep in mind that the attacking force was stripped of any air cover and very poorly equipped in air defense capabilities.[16]

It is also important to remember that U.S. Army, Marine, and allied ground forces fixed the Iraqi forces, thus allowing air power to pound them effectively. In the final analysis, it took a ground offensive to eject the Iraqis from Khafji. The recent Air Force interpretation is, to say the least, self-serving.

Air power advocates also point to the short NATO bombing campaign of September 1995, DELIBERATE FORCE, that supposedly brought the Bosnian Serbs to the negotiating table at Dayton. Bringing the Serbs to the negotiating table was the function of a number of factors and not solely the result of air power. At the tactical level, the bombing undoubtedly had an effect. That said, the aircraft were constrained by bad weather on a number of occasions, and by the end of DELIBERATE FORCE were running out of viable targets.[17] Moreover, those who claim that air power was the decisive factor in compelling the negotiations overlook the contribution of the artillery of the British and French Rapid Reaction Force which fired over 900 rounds in the early hours of the offensive alone. Their support most certainly was not constrained by bad weather.[18]

What air power advocates also overlook is the role the Croatian Army played in bringing the Bosnian war to a culmination point. In May 1995, the Croatian Army, in a campaign that lasted only a few days, recaptured Western Slavonia from ethnic Serbs. Three months later, in August, the Croatian Army overran the entire Serb-held Krajina region in less than 10 days. By October 1995, the combined Croatian and Bosnian-Croat Federation armies had

recaptured large portions of territory in Bosnia that ethnic Serbs had seized since 1992. Indeed, by late October, the ethnic Serbs were reeling, and Bosnian-Croat Federation forces were advancing on key Serb strongholds, such as Banja Luka. In short, the Bosnian Serbs knew they were on the brink of a massive strategic defeat by land forces and sought to end the conflict before they lost the war.

Air power's role in the Battle of Khafji and its supposed decisiveness in DELIBERATE FORCE constitute the primary historical foundations for Halt. Underwriting both of these data points of reference are capabilities that issue from technology and those capabilities are fundamental to the efficacy of Halt. Air Force Major General Charles Wald claims that, "technology has matured to allow us to pursue an 'assured detection and destruction' philosophy." He maintains that "except for deep hard buried targets, Pk is near 100-percent and, except for moving targets, the Pf2t2 (probability of finding, fixing, targeting and tracking) is near 100-percent."[19]

While that sounds impressive, what it means is that if the target is in the open and not moving, we can find it and hit it. A frontiersman circa 1800 armed with a Kentucky Long Rifle might find hitting a stationary target in the open something rather less than remarkable. Nevertheless, being able to find, fix, track, target and engage with precision is fundamental to the viability of Halt. Although since the 1950s the Air Force has been able to find and destroy fixed targets—even deep ones—what is new is the precision with which they can do so. The capability to hit the target with great precision, like atomic and nuclear weapons a half-century ago, allows air power enthusiasts to claim—once again—that technology has at last caught up with doctrine. In this, claims made by Halt advocates are not all that different from those made by Air Force air power advocates of the 1950s, if one substitutes "precision" for "atomic."

Old Skins: The Atomic Halt.

Advocates have quite often overstated both the potential and the capabilities of air power. Before the United States entered World War II, Claire Chennault, in a letter to President Franklin D. Roosevelt, claimed that with only 150 modern fighters, 30 medium and 12 heavy bombers, sustained at *that* force level, he could "accomplish the downfall of Japan . . . probably within six months, one year at the outside."[20] Then, on August 7, 1945, after the first atomic bomb dropped in anger exploded over Hiroshima, Army Air Forces Major General Curtis E. LeMay, Commander of XX Air Force, stated, "Our present Army is not necessary for the further prosecution of the war in the Pacific . . . the future of land armies has been decidedly curtailed."[21]

Between 1945 and 1950, the United States disarmed rapidly. The Air Force won its independence in 1947 based in large part on its potential to be decisive in war. It was the wedding of the atomic bomb to a reliable delivery vehicle, in those days the B-29, that made this claim plausible. Nevertheless, despite the fact that the United States had a virtual atomic monopoly in 1950, it found itself at war with North Korea and China. The U.S. Army paid a high price for the unfulfilled promises of air power before—*and during*—the Korean War.

During the Korean War, however, the defense budget blossomed, and the Army went from 10 under-strength to 20 full divisions. But with the Eisenhower administration, the emphasis returned to economy in defense, and the wisdom was that nuclear weapons and nuclear deterrence provided the most efficient approach to defense strategy. From 1954 to 1961, the annual defense budget averaged around $38 billion, and even dipped to $32 billion in real terms by 1959. The allocations were steady during those years, with the Air Force receiving 47 percent, the Navy and Marine Corps 29 percent, and the Army 24 percent.[22]

During this time, the Air Force position held that if the nation had a strong nuclear deterrent, then conventional or "lesser" wars which required large conventional ground, naval and air forces, also would be deterred. Under this concept, the Strategic Air Command could deter local and conventional wars. General LeMay, who became Air Force vice chief of staff in 1958, explained it this way to the Senate Preparedness Investigating Subcommittee,

> I do not believe we can afford to maintain separate weapon systems for various types of arguments that we might get into with our neighbors in the world. I think we are going to have to build for the worst cases, and then use them for all others.[23]

With atomic and nuclear technologies of the 1950s, claims that "a new era of warfare" had dawned were as prevalent then as they are today. Colonel Robert C. Richardson III, in a series of articles in 1954 and 1955 in the *Air University Quarterly Review*, claimed, "The old concept of a three-phase war—the holding, build-up, and exploitation phase—is dead."[24] He went on, "The war and the decisive phase will hereafter begin at the same time. The next, and last, phase concerns the consolidation of the victors' conquests in accordance with his objectives; *it may or may not require military forces*."(emphasis added)[25]

Richardson, like Halt advocates nearly a half-century later, lamented the resistance to acceptance of this new way of warfare among the other services.

> We still do not accept the formidable evidence that the initial phase will in all likelihood be decisive. We are still diverting a great deal of effort to the build-up and maintenance of forces which may never enter the fight until after the basic decision has been reached. It may be too soon to assume that the conflict will be completely ended as a result of the atomic exchange. But it does seem clear that whatever form war may take in the subsequent stages, it will not be that of the classical war of attrition.[26]

Forty-four years later, *Air Force Magazine* Editor-in-Chief John T. Correll sounded a strikingly similar note when he wrote in a October 1997 editorial, "In the Joint world, the Air Force encounters the headwinds of tradition. The belief is still widespread that 'boots on the ground' are more important than precision attack."[27] While Mr. Correll and many in the Air Force hold this opinion, the Army readily acknowledges the importance of joint air power.

And, in the 1950s, as today, the speed with which air forces could arrive on the scene was part of what made the air power claims feasible as well as operationally attractive. In the Summer 1954 edition of the *Air University Quarterly Review*, Air Force Brigadier General James Ferguson claimed that air power could be on the scene in a matter of days, if not hours, to counter any land attack. Furthermore, he pointed to the introduction of "new weapons . . . which in themselves produce decisive results." He claimed that "balanced forces are no longer commensurate with the military problem at hand . . . emphasis is not being placed on the arm that can get there first with the most decisive weapons."[28]

In the current debate, the Air Expeditionary Force (AEF) is the vehicle whereby air power can counter aggression across the conflict spectrum.[29] This force has integrated capabilities to include the employment of space information systems, manned and unmanned reconnaissance, air superiority, deep attack, and close air support. A full array of systems comprises what one of Halt's advocates calls, "a extremely powerful and *cost effective* fighting force." These include AWACS, JSTARS, U-2Rs, F-117s, B-52s, B-1s, B-2s, F-16s, F-15s, and various support aircraft like EC-130s and KC-10s. The AEF of "Air Force Next" is going to be "leaner, more powerful, stealthy, space- based, mobile, and *cost effective*." It will include F-22s, Joint Strike Fighters, B-2s, F-117s, JSTARS, and even more sophisticated space sensors and unmanned reconnaissance vehicles.[30]

Like the modern Halt strategy itself, the AEF has its roots in the 1950s. In September 1956, the Air Force deployed Mobile Baker, a Composite Air Strike Force (CASF), to Europe. The leading edge of the force, a flight of F-100s, arrived in Europe in just 4 hours and 55 minutes. The entire force moved from bases in the United States to Europe in a 24-hour period. Like the modern AEF, the CASF included a number of different kinds of aircraft; B-66 tactical bombers, F-84Fs, and RF-84s, in addition to the F-100Cs. Furthermore, all the fighter-bombers and tactical bombers were capable of employing the 1950s technological equivalent of precision strike: atomic and nuclear weapons.[31]

With the roots of Halt and the modern-day AEF evident in the atomic era and the Air Force's Combined Air Strike Force concept from the 1950s, the Halt Phase Strategy/ Doctrine may, indeed be "new wine in old skins." But this does not mean Halt is neither viable nor relevant. Indeed, one can argue (as air power advocates do) that concepts of land warfare date themselves by thousands of years. But the questions should be, what is the current and future relevance of the idea, concept, strategy, or doctrine? And, to what extent should we structure our future national security upon Halt?

Halt: Can It Work?

The Halt strategy is an appealing one, at least appealing in the same way that Claire Chennault's proposition must have been to President Roosevelt. It promises quick victory at low cost in American lives. While Halt's proponents admit that warfare will continue to be bloody in the 21st century, they maintain that the Halt strategy is part of "our responsibility to seek the least bloody solution to national security problems."[32] But will it work? Perhaps, if all our enemies confront us with large mechanized forces in open terrain, and if those forces would be obliging enough to mass in a relatively confined geographical area of a few hundred

square miles, and if the enemy did not strike at our air bases with their special operations forces, missiles, aircraft, or weapons of mass destruction, if that enemy's organic air defenses are either scarce or degradable, and if that enemy has no air force of its own, Halt will probably work. But just because the last enemy we fought was so obliging is no indication that the next one will be. In fact, there is no reason to believe that Iraq would be inclined to repeat the mistakes of the 1990-91 campaign in Kuwait.

Then there is North Korea. Air power would play a critical role in helping slow any advance by the North Korean People's Army into the Republic of Korea. Such an attack, should Pyongyang undertake it, would result in great destruction for both Koreas and an enormous loss of life. The proximity of Seoul to the border makes the likelihood of high civilian casualties and great destruction a virtual certainty. How likely is it that a Halt-type response would succeed in stopping North Korean forces before they either capture Seoul or the city is destroyed? While North Korean armored units might suffer great losses, air power would be of only limited utility against North Korean special operations forces and artillery and rockets hidden in caves.

On the other hand, the Republic of Korea's Army is larger than the Active Component of the U.S. Army. It is well-trained, well-armed, and quite capable. The U.S. Army maintains an infantry division with two brigades in South Korea. The Air Force has three squadrons of F-16s, a squadron of A/0A-10s, and a Special Operations squadron in South Korea. Two additional F-16 squadrons and three F-15 squadrons are based in Japan, along with a Marine Expeditionary Force of 15,000.[33] While a conflict on the Korean Peninsula would be costly, the United States and the Republic of Korea will almost certainly prevail. But it would be a bloody coalition fight, not an air campaign.

Moreover, we have to ask whether it makes good sense to focus our entire future defense structure, one that will have

to be the basis of our national security in 2025, on two possibilities that are essentially remnants of the Cold War: a rerun of the Persian Gulf War and a war on the Korean Peninsula. Stopping mechanized forces in relatively open terrain is an important capability, to be sure, but such a capability covers only a narrow band of the threat spectrum today. In the future that band is likely to be even narrower.

At the broader strategic level, can a force designed to optimize an air Halt campaign conduct the shaping activities called for in our National Security Strategy? Can it do peacetime engagement or perform the myriad of peace operations? Will our allies and potential coalition partners be reassured by an American military that is ready to commit aircraft and weapons, but is reluctant to commit American soldiers to their defense? Can Halt-structured forces respond to those crises where bombing is inappropriate such as urban combat? (Mogadishu and Haiti leap immediately to mind.) Other than flying in supplies and performing reconnaissance, how does air power figure into humanitarian assistance and providing support to civil authorities? The national security challenges of the 21st century are far broader than Halt advocates seem to realize and, while it is important to examine Halt in light of the larger strategic context, what are the essential elements of Halt and how would they work?

The Halt strategy/doctrine has six principal elements:[34]

- Air power can now dominate land forces;
- Air forces can arrive on the scene rapidly;
- Air power can force the enemy to culminate in days;
- Air power can win a decisive victory in a few weeks;
- Reliance on air power is morally right and economically efficient;

- We have the technology necessary to find virtually all significant targets and to destroy them quickly and efficiently.

If air power could do all these things across the broad spectrum of current and anticipated national security threats, Halt might be the right foundation upon which to base a military strategy for the 21st century.[35] It is not that air power advocates once more have promised more than they could possibly deliver, because within certain narrow parameters, Halt might work. Rather, it is that they have devised an approach to a form of future warfare that is becoming less likely as time goes on.

Assessing the Elements of Halt.

Will Halt work and, if so, under what circumstances? As a way of assessing the efficacy of Halt we will examine the six elements of Halt identified above.

- **Air power can now dominate land forces.**

Under certain circumstances air power can, indeed, dominate land forces. Certainly air power played a vital, even dominant role, in the now much-celebrated Battle of Khafji. Any enemy which masses in open terrain, without organic air defenses such as SAMs and without an air force to cover it, would be vulnerable to attack by air forces like those of the United States and, for that matter, a number of other nations.

The environment and the terrain have a great deal to do with whether or not air power can be effective. Historically, air forces have not dealt well with forces moving at night, in mountainous terrain, in bad weather or under the cover of foliage. The jungles and forests of Indochina presented their very special problems. In the 3 years and 9 months of Operation ROLLING THUNDER, the American bombing of North Vietnam from March 1965 through October 1968, air power not only failed to stem the flow of troops and supplies

moving south, but the infiltration increased dramatically each year. The second *Jason Study*, completed by the Institute for Defense Analyses in December 1967, found that, "We are unable to devise a bombing campaign in the North to reduce the flow of infiltrating personnel into South Vietnam."[36]

Operation COMMANDO HUNT, a series of seven air interdiction campaigns conducted along the Ho Chi Minh Trail from November 1968 to April 1972, likewise failed, despite the dropping of nearly 2.5 million tons of bombs. While AC-130 gunships blasted trucks motoring down the Trail at night, and B-52s and fighter-bombers bombed truck parks, storage areas, and the route structure during the day, the North Vietnamese succeeded in moving enough supplies and troops into South Vietnam to change the complexion of the war. Prior to 1968 the war had been mostly a guerrilla war, albeit one with increasingly conventional aspects. After 1969, despite all the ordnance and napalm dropped, the war became predominantly conventional. By 1972, with 14 divisions of the People's Army of Vietnam (PAVN) pouring into South Vietnam, 11 of them attacking from Laos and Cambodia, it is hard to see how the bombing of the Trail had been anything but an operational failure.

Pointing to advances in technology, Halt advocates would respond, "that was then and this is now." But the uses and misuses of air power in Vietnam show quite clearly that putting bombs on target at the tactical level, and even succeeding at the operational level, does not translate into strategic victory. Even our most successful employment of air power during the Vietnam War, LINEBACKERS I and II, the bombing campaigns of 1972, failed to secure a strategic victory, something air power enthusiasts do not seem to understand.[37]

Prior to Operation DESERT STORM, LINEBACKER I, the air power response to North Vietnam's massive invasion of South Vietnam in the Spring of 1972, stood as the most

dramatic evidence that air forces can, indeed, play a pivotal role in halting an enemy ground offensive. In fact, LINEBACKER I was the first modern air campaign in which precision guided munitions played a key part in the strategy. Air power did play a vital role in stopping the PAVN advance. But ground forces were also important. For one thing, the Army of the Republic of Vietnam, which bore the brunt of the attack, fought better than it ever had before, forcing the PAVN to mass their forces, thus providing targets for aerial attack. The PAVN also made some fundamental mistakes. They laid siege to ARVN units holed up in fire support bases rather than simply maneuvering around them and continuing on to other objectives. Also, when the PAVN laid siege to major towns like Kontum and An Loc, they provided large, stationary targets.[38]

In 1975, the Republic of Vietnam Air Force (RVNAF), by then the world's seventh or eighth largest air force, was totally ineffective despite having complete air supremacy over the battlefield.[39] Air power failed for a number of reasons. First, the PAVN engaged in much more constant and dispersed maneuver. Because the ARVN's disintegration was near total, it was not necessary for the North Vietnamese to mass their forces except on those occasions when the South Vietnamese stood and fought, as some units did at Xuan Loc, just north of Saigon. Second, the RVNAF, despite its formidable size, in addition to being gutted by lack of parts and maintenance, was also a lightweight, consisting primarily of A-37s and F-5As, trainers converted into fighter-bombers, Korean War vintage A-1 propeller-driven fighter-bombers, and helicopters. The PAVN brought plenty of air defense capability with them, to include shoulder-fired SA-7 missiles, 23mm and radar-directed 57mm anti-aircraft guns, and SA-2 surface-to-air missiles. These quickly neutralized what remained of the RVNAF. Certainly, American air power might well have been withering in its effect, if using it to do more than cover the final evacuation had been an option. At the very least, if American air power had been available to pound the

attacking PAVN divisions, it would have forced them to fight differently. While the PAVN victory would have taken longer, with the ARVN collapse no amount of bombing, except possibly an annihilative strategic bombing campaign against North Vietnam, could have saved the Saigon government.

While the historical evidence that air power alone can dominate the battlefield is not compelling, ground forces have, in fact, won wars in which the opposing side had complete air supremacy over the battlefield. The communist victories in two Indochina Wars, the stalemate in the Korean War, and Mujahadeen victory in Afghanistan simply cannot be ignored.

- **Air power can arrive on the scene quickly.**

Speed and range, while not commingled attributes, are significant elements of air power. Bombers flying from forward operating locations can reach many targets within a few hours. If American planes are already based nearby, they can be airborne in minutes, depending on the amount of warning, and enroute to their targets. Certainly, aircraft carriers can put several squadrons of fighter-bombers within quick striking distance of almost any littoral target on earth. As one Halt proponent claims, "450 knot deployers that can create serious military effect while exposing only limited vulnerability to the enemy early on."[40]

In reality, the speed with which air power can deploy to a given point on the globe depends on a number of factors. First, what kind of warning will we have? The initial Iraqi attack into Kuwait involved an armored and mechanized division and helicopter-borne special forces troops. In about 6 hours they had captured Kuwait City.[41] Had long-range bombers been ready and armed, had the targets been selected, the crews briefed, and the political decisions to employ force been made, at 450 knots CONUS-based bombers would have been somewhere over the Atlantic when the Iraqis secured their initial objectives. By the time

the bombers would have arrived, the Iraqis would have already occupied Kuwait City.

If bases are available in the theater, then air power can respond more quickly. Or, if aircraft carriers are on station nearby, their planes offer a valuable option, provided the political decision to use force has been made, the targets have been selected, and the crews and their machines have been prepared. These are, of course, best case scenarios. Bases quite often are not available. In the early 1998 crisis over Iraqi intransigence concerning U.N. inspection of sites where weapons of mass destruction might be produced and stored, it was unclear which bases in what countries would be available, if any. Also, we cannot always count on over-flight permission.

The interests of the United States simply are not always congruent with those of other nations, not even with those of our friends and allies. In Operation ELDORADO CANYON, the April 15, 1986, U.S. raid on Libya in retaliation for a terrorist attack on a Berlin night club frequented by American soldiers, over-flight rights and permission to stage attacks from bases in friendly and allied countries generally were not forthcoming. Consequently, the attacking F-111s, flying from Britain, had to fly a circuitous over-water route that both lengthened and complicated the mission.

Some nations, particularly in the Persian Gulf, have cultural, religious, and political concerns about hosting large numbers of American service personnel. Their ruling elites seem to fear that an American presence may be politically destabilizing. Then there is the possibility that the presence of U.S. forces may make them a target of direct attack, whether in the form of preemptive raids, to include the possible use of chemical and biological weapons, or in the form of terrorist attacks of various kinds. In short, the claim that air power can arrive on the scene quickly must be qualified in several respects.

Some Halt advocates will argue that forward bases are not entirely necessary. Certainly today's long-range bomber force, its effectiveness enhanced by stand-off weapons and precision guided munitions, with aerial refueling can strike targets anywhere on the globe. That is so, but it may also have the unintended consequence of driving a future opponent to attack the U.S. homeland, even if only the bases from which such aircraft operate. A future enemy does not need a strategic bomber force or intercontinental ballistic missiles to do that. A van, truck, or even an automobile can carry weapons capable of crippling, if not destroying, many critical air base facilities. Such attacks need not be carried out by "terrorists." Enemy SOF units, infiltrated across our borders, conceivably could conduct such operations.

- **Air power can force the enemy to culminate in days.**

The great German philosopher of war, Carl Von Clausewitz, linked the culminating point of the attack to what he called "the diminishing force of the attack." At that culminating point, "the scale turns and the reaction (counterattack) follows with a force that is usually much stronger than that of the original attack."[42] At that point, it is time to win and to do so quickly and definitively. Certainly Clausewitz knew that the effect of force diminishes over time. "The diminishing force of the attack is one of the strategist's main concerns."[43] The Halt Strategy/Doctrine puts the culminating point early in the conflict, when air power stops the invading enemy force. At this point time becomes a factor. The enemy, however, may well be the one that benefits most because its forces have time to disperse, dig in, or withdraw to a more tenable position**. Indeed**, **time can be a gift for the enemy**. Additionally, over time people become used to bombardment or find ways to ameliorate its effects.

Clausewitz also tells us that war is like a wrestling match. Each side acts and reacts to the initiatives of the other. There is the question of why the enemy would mass

forces during the attack unless there was a ground objective. Usually an enemy will mass for one of two reasons. First, to bring as much force to bear upon the defensive force at what the enemy commander considers to be its most vulnerable point. Second, armies mass to seize and hold an objective. In most cases, since fortresses do not play the role they once did, this will be an urban area or an important economic asset, like an oil field or port.

But, for the sake of addressing Halt as a strawman, let us assume that the enemy masses his forces and moves into friendly territory. What would make the enemy force stop? When the attacking force loses the ability to maneuver it will stop. So many tanks, fighting vehicles, armored personnel carriers, and trucks, spotted by space-based systems and by JSTARS, may be destroyed that the enemy has to give up the attack. Undoubtedly, air power will be attacking the lines of communications, and surviving vehicles may lack fuel. (All this assumes that the enemy attacks with a mechanized force proceeding without organic air defenses such as mobile SAMs and anti-aircraft guns, and that the enemy air force has been defeated or is not a factor.)

If an attack is carried out by mechanized forces, it is possible to destroy enough vehicles to cause the enemy to do one of three things: give up, disperse, or dig in. In the first case, the leaders of the attacking nation decide that further operations are either impossible or too costly and stop their aggression. In the second case, which seems most likely, they decide that massing their forces invites attack. Depending on the terrain, maneuver may still be possible, even if numbers of vehicles have been destroyed or otherwise incapacitated. Certainly infantry can take this approach and continue the attack.

Or the enemy force may dig in and attempt to fight a battle of attrition against the attacking air forces, as the Egyptian Army did in October 1973 when it crossed the Suez Canal. As soon as the Egyptian Army gained a foothold

in the Sinai, it established an interlocking air defense system that included SA-2, SA-3, SA-6, SA-7, and SA-9 surface-to-air missiles and ZSU-23-4 anti-aircraft guns. The vaunted Israeli Air Force admitted to losing 115 aircraft, 60 in the first week of the war.[44] It is not beyond the realm of possibility that enemy forces would have effective SAMs, or even laser weapons, that could make aerial attacks costly, or at least diminish their effectiveness to the point that the offense can resume. If the enemy manages to negate the effects of air power, and sufficient friendly ground forces are not in place, then friendly force options become limited, and defeat is a distinct possibility.

If the enemy chooses to disperse, hunting down and destroying each individual tank, truck and fighting vehicle or rifle company could be time consuming and expensive. In his October 29, 1998, presentation at CSIS, General Link assumes that "We can buy munitions."[45] The message of Rebecca Grant's *Airpower and the Total Force: The Gift of Time* is that if we convert several active Army divisions to National Guard divisions there will be enough money to fund "big ticket items" like the F-22 and F-18E/F. Even if there are funds available to provide enough PGMs, destroying individual vehicles will prove very expensive. Even if successful, it may inflict more casualties than necessary. The objective of combat should not be butchery, but to break the enemy's will. Furthermore, attacking dismounted infantry with precision guided munitions would not only be expensive and time consuming; it also is likely to be ineffective.

Two more issues need to be addressed. First, there is a cultural issue revolving around technology. During the Vietnam War, the United States, and especially the U.S. Air Force, was ever in search of a technologically inspired "silver bullet" that would deliver quick victory at a low cost in lives and resources. Cluster bombs, napalm, herbicide defoliants, electro-optical, and laser-guided bombs all promised much. While they were often used effectively, it also seemed to many that a cruel and unusual technology

had been unleashed on a "peaceful and peace loving" people. The North Vietnamese made the most of this perception and used it to help fuel the anti-war movement in this country, thereby weakening our resolve.

Second, what nation would be so foolish as to structure their armed forces in such a way as to insure their vulnerability to the kind of air attack implicit in the Halt Strategy/Doctrine? The military forces fielded by Iraq and North Korea are not the ones which pose the greatest threat to us now or in the future. Our greatest threat will come from those opponents who will exploit cultural and political asymmetries to blunt our technological superiority.

- **Air power can win a decisive victory in a matter of weeks.**

Theoretically, under certain circumstances, air power may be able to win a decisive victory in a matter of weeks. That assumption is the foundation for the efficacy of massive retaliation and deterrence. Historically, however, air power has yet to be the decisive element in war. Only the most ardent air power enthusiasts maintain that bombing was decisive in World War II. Most historians would argue that while air power played a major role in the war effort, the ability to control sea lines of communications and, ultimately, to control terrain was what proved decisive. A greater number of "true believers" argue that while air power may not have "won" the Vietnam War, it could have been "decisive" if some combination of political leadership, the anti-war movement, and a pernicious press had not interfered "to tie the hands" of airmen.[46]

Over the years, air power enthusiasts have seemed to confuse tactical and operational success with strategic decisiveness. The ability to destroy targets does not necessarily translate into strategic success. However, the historical record is quite clear that when operations are conducted as part of a combined arms force, air power can play a key, even pivotal role, in the outcome. This was

certainly the case in LINEBACKER I and in Operation DESERT STORM. But the historical record does not indicate that air power alone has ever been decisive in war. Is it then wise to build a whole national security strategy on prophecy and promises?

- **Reliance on air power is morally right and economically efficient.**

Halt proponents claim that because of the capabilities derived from advances in technology, future warfare can both be less bloody and more economically efficient. Therefore, since we have these capabilities we are morally bound to build forces and devise strategies that will enable us to pursue not only less bloody forms of warfare, but to do so with a defense establishment that is more affordable.[47]

In the IRIS Corporation's pamphlet, *Airpower and the Total Force*, Rebecca Grant argues that the Army is asking the nation to accept the possibilities of massive casualties as a way of retaining force structure, specifically 10 Active Component divisions. She claims that, "Army planning also has focused on manpower-intensive scenarios such as urban warfare" as part of its "justifications for high levels of manpower-intensive forces." According to Grant, another way in which the Army is trying to justify its "manpower-intensive" structure is to raise the possibility of an enemy using weapons of mass destruction.[48]

Dr. Grant has misstated the Army's position on urban warfare. The Army would prefer not to fight in cities since this form of warfare is highly destructive and potentially quite bloody. But one of the consequences of relying on a Halt strategy would be that in the absence of land forces to fix the aggressor, the enemy would move rapidly into urban areas as a way of negating the technological advantages inherent in precision strike.

Historically, many have looked to technology for ways to lessen the carnage of the battlefield. In the early 17th century for instance, there was a widely held expectation

that the introduction of gunpowder weapons, especially artillery, would make warfare less horrible. The brutal slamming of clubs and axes and the slicing and disemboweling by swords could be replaced with the less-personal and supposedly more humane blasting by artillery or the supposedly quicker death resulting from a gunshot. Confederate and Union soldiers cut to ribbons by rifled musketry and grapeshot during the Civil War, *frontkampfers* and doughboys enduring artillery barrages on the Western Front in World War I, and Legionaries being pounded by Viet Minh artillery and *Katyusha* rockets at Dien Bien Phu would find that a strange notion. In fact, most advances in weapons technology have resulted in greater and not lesser carnage. The modern mavens of precision who argue that we will succeed if we kill enough of the enemy force, whether or not their will is broken, need to reread Clausewitz and, perhaps read one of the many histories of the Red Army in World War II.

After the carnage of World War I, particularly along the Western Front, the idea arose that flying to the enemy's heartland to destroy their industrial warmaking capacity would bring warfare to a rapid conclusion and, thereby, ameliorate the violence by lessening its duration. German civilians bombed out of their houses by the Royal Air Force and nearly a million dead Japanese civilians, burned, blasted, and irradiated by American air power might find the idea of humane death from above a strange notion as well.

Finally, one way for an enemy to counter the Halt strategy would be to move their forces into urban areas as quickly as possible. Then the United States would be faced with urban warfare, something to which air power and high firepower weapons are not suited. Bombing in the cities almost certainly would be very destructive, and the only alternative would be to employ American ground forces, predominantly light infantry supported by armor, in a form of combat that is notoriously bloody and destructive.

The historical record is that neither military technology nor air power has lessened the human and economic costs of war. In 1964, as the United States drifted toward involvement in Vietnam, Air Force leaders urged a strategic bombing campaign as a way of bringing Hanoi's leadership to its collective knees quickly. Such a campaign was presented as a low risk and low cost alternative to the deployment of ground forces to South Vietnam.[49] Unfortunately, bombing did not compel North Vietnam to desist in its aggression and before the war was over, 48,000 Americans died in combat, some 43,000 of which were soldiers and Marines.[50]

Another part of this argument is that air power provides a more efficient alternative to maintaining large, standing armies. This, too, is not a new argument. It was advanced by the Air Force during the 1950s and was accepted by the Eisenhower administration. During that time, massive retaliation with atomic and nuclear weapons was the foundation for national security under the "New Look" strategy. Although President Eisenhower, a retired Army five-star general, understood the traditional efficacy of land forces, he turned to air power as a cost-effective and more efficient way to defend the United States against the Soviet Union. Eisenhower believed that maintaining a large Army and preparing for either a conventional war with the manpower-intensive forces of the Soviet Union, the Warsaw Pact, and China or fighting a series of limited, conventional wars could bankrupt the United States.[51] If the U.S. economy collapsed, the thinking was that other Western economies would be vulnerable and a general economic disaster might then take place. Then the Communists would win by default. Reliance on strategic nuclear forces and the strategy of massive retaliation seemed the most efficient way to address all those concerns.

Air Force doctrine fit well into the strategy of massive retaliation. A generally held assumption, both in the Air Force and the Army, was that if they could fight and win the big war, they could fight and win smaller wars with lesser

applications of the same kind of force. Instead of modifying their force structures and changing their doctrines to accommodate limited wars, the services, especially the Air Force, tried to fit limited warfare into their approach for fighting general wars. At the high end of the technological spectrum, nuclear weapons would be used. John F. Loosbrook, editor of *Air Force Magazine*, in 1956 wrote, "Today's nuclear weapons, coupled with our determination to use them if needed, can take the profit out of aggressive war, big or little."[52] The assumption that being able to fight and win the big war would translate to tactical, operational, and strategic success in a small war was put to the test in Vietnam, and found wanting.

- **Technology makes it possible to find virtually all significant targets and destroy them.**

Does the United States have this capability? While the list of American technological capabilities is lengthy, we do not yet have the ability to find nearly *every* target on *any* battlefield and destroy them. While with JSTARS and other aerial and space-based sensors we can find many targets and direct strikes upon them, even the most avid Halt advocates admit that we are only now beginning to deploy airborne and space sensors that can identify, tag, and track moving targets. Furthermore, targets that are buried or otherwise concealed remain beyond most of our current capabilities.[53]

Certainly we are not there yet. During the Persian Gulf War, the Air Force was unsuccessful in finding SCUD launchers in the open spaces of the desert. More recently, all of our highly technical space-based systems seemed unable to tell us that India was about to engage in nuclear tests at a nuclear test facility whose location was known. While current systems probably can pretty well identify and tag a massed mechanized force moving in the open, again that is a very small part of the threat spectrum. Will our advanced technologies work in cities and jungles? Even if they do, will our precision guided munitions work in jungles or forests?

Will we be able to detect and track forces that are highly dispersed? Are we going to develop a new family of air-delivered PGMs that can take out individuals or armored vehicles in cities without causing extensive collateral damage? The United States must pursue these capabilities, but in the meantime it would be foolish to base our national security strategy on anticipated advances in technology.

Halt: A Rearward Looking Strategy.

The Halt Strategy/Doctrine is new wine in old skins. Cynically, one might conclude that, at its most extreme, Halt is a parochial attempt by one service to garner as much of the available defense budget as possible. But it is not being overly charitable to assume that many of those who espouse the Halt strategy are sincerely committed to pursuing what they truly believe to be in the best national security interests of the United States. In fact, air power will play a key role in many future operations. In some instances it will play a larger role than in others. If during some future conflict a preponderance of American forces are engaged in one part of the world, and a second enemy elsewhere mounts a mechanized attack across relatively open terrain, air power could have a devastating impact. That eventuality, however, constitutes a real but relatively small part of the threat spectrum.

Not only would a National Security Strategy based on the Halt Phase Strategy and Doctrine be operationally narrow, it would be strategically limited in several ways. Halt is totally reactive and therefore cedes the strategic initiative to the adversary. It cannot accomplish or even contribute to the vast majority of peacetime engagement activities that can help avoid major conflict. Within its optimum band of effectiveness, Halt can only handle a limited target set: specifically, mechanized and armored forces operating in open terrain. Rather than expanding the role of air power, the impact of the Halt advocates may well be to make air power narrower in its application. Even if

Halt can do everything its advocates claim, it will be irrelevant for the broader, yet still critical, segments of the conflict spectrum.

Revolutions change everything. One of the problems with the current revolution in military affairs (RMA) is that we are not even sure it is a real revolution. And if it is, very few service advocates are willing to consider the kind of changes necessary to make the RMA truly revolutionary. To varying extents, each service's vision of the future is based upon conducting DESERT STORM faster and better. Very few are willing to consider the possibility that future doctrines, strategies, and force structures may be radically—not just evolutionarily—different from those of the present. Buzzwords like "information" and "shooter" tied to the word "centric" does not a revolution make.

Furthermore, it is dangerous to depend on technology. If a foe with symmetric capabilities emerges in the 21st century, they will attack our technological capabilities and probably degrade them. Or, if they have niche capabilities, they can use them as the North Vietnamese used SA-2s and MiG fighters, to attack our air strategy asymmetrically. Currently work is being done on lasers as a way of destroying the sensors needed to find targets and to guide munitions to those targets. Low technology counters to precision-guided munitions appeared almost as soon as the first laser-guided bombs were used in Laos in 1969 when smudge pots were employed to create smoke. If our national defense is focused entirely on high technology, we invite technological trump, spoofing, and alternative tactics.

Halt concept advocates are engaged in an exercise in wishful thinking for the present and in magical thinking for the future. In late June, a week after the CSIS "Dueling Doctrines" conference, an Iraqi air defense radar locked onto four British Tornado fighter-bombers patrolling the Southern No-Fly Zone over Iraq. An F-16CJ fired a HARM (high speed anti-radiation missile) at the site with unspecified results. This event should give pause to those

Halt proponents who minimize the threat posed by current surface-to-air missile systems. Obviously, they could jeopardize the viability of the Halt strategy in any present-day operation. According to an article published in the July 6, 1998 edition of *Aviation Week and Space Technology*, by "netting" older missile systems, like the SA-2, with French or Chinese radars, U.S. planes can be made vulnerable. The effect of netting is that the electronic observables of the radars that guide the SAMs are sufficiently altered so that, at best, on-board electronic defense systems are slow to recognize them as a threat. At worst, they miss the threat altogether. Furthermore, the removal of EF-111 electronic jamming aircraft and F-4G Wild Weasels from the Air Force inventory cannot have enhanced the Air Force's capabilities for degrading or destroying enemy air defenses. For the present, it would be wishful thinking to assume that any potential enemy would consider attacking with massed mechanized or armored forces that were not accompanied by a robust network of SAMs, probably modified to trump our electronic countermeasures and anti-SAM systems. For the future, the Air Force's response to this threat is to further develop stealth technology. To assume that a future enemy will not be working on ways to obviate the advantages of low observable technologies is to go beyond wishful—and into magical—thinking.[54]

Halt also invites asymmetrical approaches, which, if our forces are rigidly structured to address a narrow band of the threat, may prove disproportionately effective. In the 21st century, wars, as we know them, between nation states will probably be infrequent. Conflict, mostly outside the norms of current international law and rules of engagement, will be common and will focus on internal factions within failed states or regions.

Our most probable adversaries for the foreseeable future are much more likely to be transnational or subnational groups like criminal syndicates, drug cartels, and various kinds of political or religious terrorist groups. These threats

will emerge from the rubble of failed or failing states. Their battlegrounds will range from the slums of megacities to the computer networks that run the financial and governmental bureaucracies of the future. Against these threats JSTARS, F-22s, Multiple-Launch-Rocket-Systems, and Joint Strike Fighters will be virtually useless. Such high-technology weapons might deter a nation from overt aggression, but they cannot secure us from a devastating attack by computer viruses planted in our banking system or air traffic control system. Indeed, the Iraqi onslaught toward Khafji in 1991, like the Persian Gulf War itself, may well have been the sunset of a past era of warfare rather than the dawn of new one. If so, it should not be the foundation upon which we structure national security for the 21st century.

Nearly 75 years ago Billy Mitchell wrote,

> Of course, everything begins and ends on the ground. A person cannot permanently live out on the sea nor can a person live up in the air, so that any decision in war is based on what takes place ultimately on the ground.[55]

Although outer space and cyberspace will assume greater importance in modern conflict, wars of the future will continue to be predominantly waged in the dimensions of land, sea, and air. But because human beings engage in economic and political intercourse on the land, the ability in peace, crisis, and war to exert prompt and sustained influence on or from the land will remain critical.[56] In the final analysis, it is land forces that exercise direct control over people and resources. This will not change as a result of increased technological capabilities.

ENDNOTES

1. Remarks made by General Charles G. Boyd at a meeting of the Air Force Association's Eaker Institute, March 31, 1997, Washington, DC.

2. See Rebecca Grant, *Airpower and the Total Force: The Gift of Time*, Arlington, VA: IRIS Independent Research, 1998, p. 17. The most

articulate advocate of Halt has been Retired Air Force Major General Charles D. Link. See Major General Charles D. Link, Presentation at the October 29, 1997, Center for Strategic and International Studies Clashes of Vision Symposium, "Responding to Aggression: Boots on the Ground vs. Technology," draft comments, pp. 1-7.

3. Lieutenant Colonel Steve McNamara, "Assessing Airpower's Importance: Will the QDR Debate Falter for Lack of Proper Analytical Tools?", *Armed Forces Journal International,* March 1997, p. 37.

4. *Ibid*.

5. James Kitfield, "To Halt an Enemy," *Air Force Magazine*, January 1998, p. 62.

6. The Air Force was already pressing hard on the Halt Phase Doctrine/Strategy. David A. Ochmanek of RAND Corporation had completed an analysis on Halt. Phillip Gold of the Discovery Institute published an article on it, and Air Combat Command completed a study on it at about the same time. Message from Lieutenant General David K. Heebner, Assistant Vice Chief of Staff, Army to Colonel James Prouty, August 21, 1997, Subject: NDP, p. 1.

7. A coordinated campaign to advance the Halt Strategy has been developed. Although now retired, Link continues to advance Halt and has been joined in this effort by Major General Charles Wald, the Director of Force Strategic Planning. The Air Force Association, RAND Corporation, Group VII, Inc. of Vienna, Virginia, and IRIS Independent Research, an Arlington-based think tank run by Dr. Rebecca Grant, have joined the Air Force in this effort.

8. Letter of invitation to the author from Dan Goure, Center for Strategic and International Studies, May 1998.

9. The Army certainly must share some of the blame. In the post-Korea and pre-Vietnam War era, that of the Pentomic Army, its big mistake was to try to "out Air Force the Air Force" by pursuing high technology systems like tactical rockets capable of carrying atomic warheads, atomic cannons, and other atomic weapons. Consequently, it entered Vietnam with only one new tank developed since World War II, one new truck, and the M113 armored personnel carrier, which was a light-weight vehicle optimized for the atomic battlefield. See A.J. Bacevich, *The Pentomic Era: The U.S. Army Between Korea and Vietnam,* Washington: National Defense University Press, 1986, pp. 96-98.

10. Kitfield, "To Halt an Enemy," p. 62.

11. See *Ibid*., and Grant, *Airpower and the Total Force*, pp. 17-18.

12. Link, October 29, 1997, CSIS Conference, "Clashes of Visions Symposium," cited in draft comments, p. 5.

13. *Final Report to Congress: Conduct of the Persian Gulf War*, Washington: U.S. Government Printing Office, April 1992, p. 140.

14. Richard P. Hallion, *Storm Over Iraq: Air Power and the Gulf War*, Washington: Smithsonian Institution Press, 1992, p. 223.

15. Rebecca Grant, "The Epic Little Battle off Khafji," *Air Force Magazine*, February 1998, p. 28.

16. Michael R. Gordon and General Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf*, Boston: Little, Brown and Company, 1994, pp. 287-288.

17. Eric Schmitt, "NATO Commanders Face Grim Choices," *The New York Times*, September 14, 1995, p. 1; and Rick Atkinson and Daniel Williams, "NATO Jets Hit Serbs Again; Bad Weather Curtails Raids," *The Washington Post*, September 1, 1995, p. 1.

18. Atkinson and Williams, "NATO Jets Hit Serbs Again; Bad Weather Curtails Raids."

19. Brigadier General Chuck Wald, "Air Force Next: The High-Tech Force," Briefing to the Defense Science Board, February 4, 1998, p. 2.

20. Chennault quoted in Barbara Tuchman, *Stilwell and the American Experience in China 1911-1945,* New York: Macmillan, 1970, p. 431.

21. LeMay quoted in Michael S. Sherry, *The Rise of American Air Power: The Creation of Armageddon*, New Haven, CT: Yale University Press, 1987, p. 345.

22. Alain C. Enthoven and K. Wayne Smith, *How Much is Enough? Shaping the Defense Program, 1961-1969*, New York: Harper and Row, 1971, p.14; and Robert F. Futrell, *Ideas, Concepts, Doctrine:* Vol. II *Basic Thinking in the United States Air Force, 1961-1984*, Maxwell Air Force Base, AL: Air University Press, 1989, p. 2.

23. LeMay quoted in Robert F. Futrell, *Ideas, Concepts and Doctrine:* Vol. I, *Basic Thinking in the United States Air Force,*

1907-1960, Maxwell Air Force Base, AL: Air University Press, 1989, p. 464.

24. Colonel Robert C. Richardson III, "Atomic Weapons and Theater War: Part I: Will Nuclear Weapons Be Used?" *Air University Quarterly Review*, Winter 1954-55, p. 15.

25. *Ibid*.

26. *Ibid.*, p. 18.

27. John T. Correll, "The Headwinds of Tradition," *Air Force Magazine*, October 1997, p. 3.

28. Brigadier General James Ferguson, "The Role of Tactical Air Forces," *Air University Quarterly Review*, Summer 1954, p. 38.

29. Wald, Briefing to the Defense Science Board, February 4, 1998, p. 17.

30. *Ibid.*

31. Futrell, *Ideas, Concepts and Doctrine*, Vol. I, p. 450.

32. Link, October 29, 1997, CSIS Conference, "Clashes of Visions Symposium," draft comments, p. 2.

33. See The International Institute for Strategic Studies, *The Military Balance, 1997/1998*, London: Oxford University Press, 1997, p. 27.

34. These six characteristics of Halt were part of an anonymous paper written by an attendee at the June 26, 1997, breakfast where Major General Link presented the Halt Phase concept. See Memorandum, August 1, 1997, Subject: Air Force Perspectives on the QDR.

35. According to the *National Military Strategy*, the threats posed by Iraq, Iran, and North Korea, while significant, are only a part of the strategic environment. If the Halt Phase Strategy/Doctrine comprised the centerpiece of our national security it would be inappropriate for asymmetric challenges like those posed by terrorism and transnational dangers. In fact, Halt would be appropriate for only a small slice of the spectrum of threats. See *The National Military Strategy*, p. 5. For an appraisal of the role of land forces in the 21st century see Lieutenant General Paul Van Riper and Major General Robert Scales, "Preparing for War in the 21st Century," *Strategic Review*, Summer 1997, pp. 19-20.

36. *Jason Study* cited in *The Pentagon Papers*, Vol. IV, Senator Mike Gravel edition, Boston: Beacon Press, 1975, p. 223.

37. Air Force Historian Richard P. Hallion, in a letter to the editor of the *Washington Times*, claimed that "Arguably in Korea, joint air attacks in 1950 were decisive in preventing North Korean and Chinese forces from overrunning the peninsula." He also stated, "In Vietnam in 1972, air power both halted the North Vietnamese invasion and...forced North Vietnam to accept the terms of the 1973 Paris peace accords." This interpretation is widely accepted in the Air Force, but is historically arguable. See "Why America needs to maintain its air superiority," *Washington Times*, July 6, 1998, p. 13. For a more balanced interpretation by a serving Air Force officer and historian, see Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam*, New York: The Free Press, 1989, pp. 147-202.

38. See David Fulghum and Terrance Maitland, *The Vietnam Experience, South Vietnam on Trial, Mid-1970 to 1972*, Boston, MA: Boston Publishing Company, 1984, pp. 151-53.

39. The VNAF had already been gutted because of cuts in the defense aid package for South Vietnam made by the U.S. Congress. In 1975, because of the cuts, the VNAF deactivated over 200 aircraft to include many A-1 fighter-bombers, 0-1 observation planes, and transports. It was forced to stop its program of replacing older and less capable F-5As with F-5Es. Some 36 F-5Es were returned to the U.S. Air Force to provide funds for operations and maintenance. See General Cao Van Vien, *The Final Collapse*, Washington: U.S. Army Center for Military History, 1983, pp. 48-49.

40. Link, October 29, 1997, CSIS Conference, "Clashes of Visions Symposium," draft comments, p. 4.

41. Gordon and Trainor, *The Generals War,* pp. 31-32.

42. Carl Von Clausewitz, *On War*, Michael Howard and Peter Paret eds., Princeton: Princeton University Press, 1984, p. 528.

43. *Ibid*, p. 527.

44. Sir Robert Thompson and John Keegan, eds., *War in Peace: Conventional and Guerrilla Warfare Since 1945*, New York: Crown Publishers, 1985, p. 236.

45. Link, October 29, 1997, CSIS Conference, "Clashes of Visions Symposium," draft comments, p. 3.

46. Professor Robert A. Pape, in *Bombing to Win: Air Power and Coercion in War* (Ithaca: Cornell University Press, 1996), makes the point that strategic bombing to compel the enemy depends far more on the vulnerabilities of the attacked than it is on the capabilities of the attacker. Pape assesses the effect of strategic bombing in World War II, Korea, and Vietnam to conclude that air power has yet to be decisive in war. Admiral U.S. Grant Sharp, in *Strategy for Defeat: Vietnam in Retrospect* (San Rafael, CA: Presidio Press, 1978), provided an excellent example of the "our hands were tied" myth that air power enthusiasts propounded as the primary reason air power failed to deliver decisive victory over North Vietnam.

47. Major General Charles D. Link stated, "We realize there are no bloodless solutions. But let me suggest that we should not permit that reality to take us away from our responsibility to seek the least bloody solution to national security problems . . . the least bloody." Link, October 29, 1997, CSIS Conference, "Clashes of Visions Symposium," draft comments, p. 3.

48. Grant, *Airpower and the Total Force*, p. 14.

49. See *The Pentagon Papers*, Senator Mike Gravel, ed., Vol. III, Boston: Beacon Press, 1975, pp. 230-239, especially p. 236; and Clodfelter, *The Limits of Air Power,* pp. 40-43.

50. Thomas C. Thayer, *War Without Fronts: The American Experience in Vietnam*, Boulder: Westview Press, 1985, p. 115.

51. Herbert S. Parmet, *Eisenhower and the American Crusades*, New York: The Macmillan Company, 1972, p. 361.

52. John F. Loosbrook, "What Kind of War?," *Air Force Magazine*, November 1956, p. 49.

53. Wald, "Briefing to the Defense Science Board," February 4, 1998, p. 17.

54. David A. Fulgrum, "Improved Air Defenses Prompt Pentagon Fears," *Aviation Week and Space Technology*, July 6, 1998, p. 22.

55. William Mitchell, *Winged Defense: The Development and Possibilities of Modern Air Power Economic and Military,* New York: Putnam's, 1925, p. 18.

56. See William T. Johnsen, *Redefining Land Power for the 21st Century* Carlisle Barracks, PA: Strategic Studies Institute, May 7, 1998, p. 6.