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America's Army in Transition: Preparing for War in the Precision Age

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PREFACE



The following two articles were written during and immediately after the war in Kosovo. The first is an adaptation of an earlier work written after a trip to Asia in 1998. In that essay, I suggested that foreign militaries were beginning to perceive our fixation on a firepower-centered way of war as an exploitable weakness. In fact, some states, armed with experience gained against us in real war, had already begun to evolve a doctrine to counter our superiority in precision. These potential adversaries concluded that dispersion, deception, patience and a willingness to absorb punishment offered them the means to endure precision strike long enough to outlast a technologically superior foe. Subsequent practical experience in Kosovo caused me to modify this thesis somewhat, but not much.

The “From Korea to Kosovo” article was written after a visit to Albania in May 1999. There I developed the central thesis for this essay: In wars of limited liability, success must be gained with a limited expenditure of means. A brief review of recent history tells us that we have been practically learning this lesson in real wars for half a century, beginning with Korea. The imperative to prepare for a full-scale war against the Soviets, however, has effectively impeded our ability to embed this lesson into our warfighting doctrine. Kosovo is a wake-up call. This article concludes with a maneuver warfare concept for this new era of limited liability wars in the Precision Age.

This Issue Paper has been developed to provide some insights into the possible course of future limited wars and to suggest how we should fight them. The Cold War is over. Thankfully it will be some time before we will have to face the prospect of fighting a major military competitor who can threaten our vital national interests. But recent events such as Kosovo seem to be telling us that lesser conflicts fought for less than vital interests will continue to challenge us. We must develop an understanding of these conflicts. We must also develop a realistic doctrine for winning them based on our own practical experience.

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Adaptive Enemies: Achieving Victory by Avoiding Defeat

Once the dogs of war are unleashed, and the shooting begins in earnest, conflicts tend to follow unpredictable courses. As Clausewitz warned many times in his military classic,¹ wars are contests between two active, willing opponents both of whom expect to win. Thus an action by one side to gain advantage precipitates a response by the opponent to counter it. Once begun, war with its neatly crafted plans and comforting expectations quickly devolves into a series of stratagems and counter stratagems by both sides as each seeks to retain advantage on the battlefield long enough to gain a decisive end by collapsing the enemy's will to resist.²

In spite of its video game image, NATO's war against the Serbs proved to be no exception to the classic Clausewitzian construct. The Serbs sought to overcome a tremendous materiel and technological disadvantage by capitalizing on their own strengths: the ability to gain operational objectives quickly and then disperse in order to avoid the inevitable aerial assault they knew would follow. The Serbs trusted that patience, tenacity, guile and the ability to sequester ground forces throughout the countryside would give them the interval they needed to out wait the resolve of the NATO coalition. This plan, however, did not work. The political will of the NATO coalition proved to be stronger in the end than that of the Serbs. But the skill and perseverance of the Serbian army, in the face of an overwhelming onslaught by a thousand or more NATO aircraft armed with precision weapons, present us with a compelling demonstration of a thinking, creative, and adaptive opponent who can foil the best prepared plans of a superior opponent simply by capitalizing on his

own inherent strengths while minimizing those of the opposition.

For the last fifty years the militaries of the Western powers, and particularly the United States, have been remarkably consistent in how they have chosen to go to war. We have inherited the remarkable ability to translate technological innovation, industrial capacity and national wealth into effective battlefield advantages because of our enormous defense expenditures during the Cold War. However, in this new era of limited wars, our commitment to limited ends now demands the use of limited means. Therefore, the lives of our soldiers have become our most precious resource and we increasingly seek to develop a method of war that will replace manpower expenditures with an ever multiplying expenditure of firepower.

But as we have seen in Kosovo, our future enemies are watching. They understand our preoccupation with firepower. Therefore, we should not be surprised when we encounter a future opponent who has learned how to nullify our firepower advantage. We have consistently been slow to perceive the growing effectiveness of the opposition in part because of a characteristic Western arrogance that presumes that, to be a challenge, non-Western militaries must either symmetrically challenge us or mimic Western ways of war. As a result, the growing skill among non-Western militaries at countering our firepower centered method of war has remained shrouded in the shadows of unfamiliar military cultures. Thus, U.S. military analysts have missed much of the discourse and experimentation occurring among thinking military institutions outside the West due

1. Carl Von Clausewitz, *On War*, edited and translated by Michael Howard and Peter Paret, Princeton: Princeton University Press, 1976.
2. This Adaptive Enemy thesis was originally published within the Winter 1999 issue of *Strategic Review*. Major portions of this JFQ essay are reproduced with permission granted by *Strategic Review*.

in part to the cultural schism that divides the world's advanced industrial democracies from the other four-fifths of the planet.

The Serbs were certainly not the first opponent to demonstrate adaptive strategies against our Western way of war. More than five decades ago, the Japanese demonstrated their analytical ability to survive America's firepower intensive attacks during the closing months of the Pacific campaign in World War II. During the battles of 1943 and 1944, the Americans won a series of quick and decisive victories by using the mobility and firepower of their amphibious forces. But the Japanese carefully observed this method of attack and by the end of 1944 they had entirely revamped their defensive plans for the islands that guarded the approaches to their Homeland.

In Okinawa, the Japanese abandoned their failed doctrine of beach defense and buried their force under a vast array of pillboxes, switch lines, and deep bunkers to carry out an extended defensive scheme centered in the southern portion of Okinawa. The Japanese recognized that they could never match American firepower, but they maximized what little firepower they had by using mortars and artillery in sufficient numbers and with enough deadly effect so as not to completely cede the firepower advantage to the Americans. Fighting their way through deep defensive lines, the Marines and Soldiers eventually took the island and destroyed the Japanese Tenth Army—with approximately 70,000 Japanese soldiers and 70,000 Japanese civilians killed. But the U.S. casualty bill for the island fighting was horrendous: 65,631 killed or wounded.

The Chinese Civil War:

Soon thereafter, another effort to redefine and codify an Eastern approach to defeating the Western way of war began in the mountain fastness of Manchuria immediately after the end of the Pacific war. Mao Tse-tung and his marshals developed a body of doctrine adapted from their successful wartime guerrilla campaigns and modified their concepts to fit the demands of a conventional war fought against an enemy superior in technology and materiel.³ Mao perfected his new way of war against the nationalists during the Chinese Civil War fought between 1946 and 1949. His concepts were simple and centered around three tenets, the first and most important of which was "area control." To be successful Mao's army first needed to survive in the midst of a larger, better-equipped enemy.⁴ To ensure survival he divided his army into small units and scattered them across a broad expanse of territory. Controlling and maintaining cohesion among such a disparate and scattered force was and remained his greatest challenge.

Once his force was supportable and stable, Mao proceeded to apply the second tenet, which was to "isolate and compartmentalize" Nationalist forces. The challenge of this phase was to leverage control of the countryside to such a degree that the enemy gradually retreated into urban areas and along major rail and road lines of communications.⁵ The final act of the campaign demanded an ability to find the enemy's weakest points in order to collect and mass overwhelming force against each point sequentially, much as one might take apart a string of pearls, one pearl at a time. Mao's new style of conventional war, while effective, demanded an extraordinary degree of discipline and patience to persevere under extreme hardships. It also demanded the ability to transition quickly from an

3. Mao Zedong, "On the International Front Against Fascism," Selected Works of Mao Tse-Tung, Vol. III, Beijing: Foreign Language Press, 1967; William H. Whitson, *The Chinese High Command: A History of Communist Politics, 1927-1971*, New York: Praeger Press, 1973.

4. Mao Zedong, Selected Works of Mao Tse-Tung, Vol. I and Vol. III, Beijing: Foreign Language Press, 1967.

5. Frederick Fu (F.F.) Liu, *A Military History of Modern China: 1924-1949*, Princeton: Princeton University Press, 1956.

area control force to a force capable of fighting a war of movement.

From China to Korea:

Within a year of the end of the Chinese Civil War, the Americans severely tested Mao's methods in Korea. During the early days of the Chinese intervention—beginning in October 1950—the People's Liberation Army (PLA) badly misjudged the killing effect of American artillery and tactical air power. Pushed too quickly into maneuver warfare, the Chinese massed in the open, often in daylight, to expand their control over the northern portions of the Korean Peninsula.⁶ They extended their narrow lines of communications farther down the mountainous spine of Korea as they advanced.⁷ But they soon found their logistic support exposed to the terrible effects of American air power. The Chinese paid a horrific price for their haste. Their spring 1951 offensive sputtered to a halt as U.S. artillery and aerial firepower slaughtered Chinese soldiers in masses, while air interdiction cut their supply lines and forced a retreat back across the Han.

Brutal experiences led quickly to sober lessons relearned from the Chinese Civil War. As a highly skilled complex adaptive system, the Chinese Army quickly adjusted to the actual conditions of this new war. Over the next two years, subsequent Chinese attacks remained limited and controlled. The Chinese high command learned to hold most key logistic facilities north of the Yalu River well out of reach of U.S. air attacks. South of the river the Chinese dispersed and hid their forces while they massed only in the period immediately before launching an attack. PLA soldiers moved at night and chiseled their front lines of resistance deep into hard, granite mountains. American casualties soon mounted, while the Chinese stabilized their

casualties at a rate acceptable to their political leadership. Far more Americans died in combat during this “stability phase” of the war than during the earlier period of fluid warfare. A cost acceptable to the Chinese became too costly to the Americans. The result was an operational and strategic stalemate. To the Chinese, stalemate equaled victory.⁸

From Korea To Vietnam:

Over the next two decades the Vietnamese borrowed extensively from the Chinese experience and found creative ways to lessen the killing effect of firepower, first against the French and then against the Americans. The Vietnamese also proved highly skilled in adapting to the new challenges posed by their Western opponents. The Viet Minh based their tactical and operational approach on Mao's unconventional methods. Their conduct of the battle was remarkably reminiscent of siege operations conducted by the PLA during the Chinese Civil War. In both cases the secret of success proved to be dispersion and careful preparation of the battlefield. The Viet Minh remained scattered in small units whenever possible to offer smaller, and thus less detectable and less lucrative targets, and to allow their troops to live off the land. Fewer supply lines and logistic sites offered even fewer opportunities for interdiction fires.

To win, the Chinese, and eventually the Viet Minh, needed to attack. Successful attacks demanded the ability to mass, at least temporarily. The Viet Minh needed to exercise great care in massing under the enemy's umbrella of protective firepower. Superior intelligence provided sufficient information to select the right time and place. Their ability to collect and orchestrate the movement of tens of thousands of soldiers at just

6. Bin Yu, “What China Learned from Its Forgotten War in Korea,” *Strategic Review*, Summer 1998.

7. Russell Spurr, *Enter the Dragon: China's Undeclared War Against the U.S. in Korea, 1950-51*, New York: Newmarket Press, 1987.

8. T.R. Fehrenbach, *This Kind of War*, New York: The Macmillan Company, 1963.

the right moment allowed attacking forces to collapse the enemy's defenses before French firepower could regain the advantage. This remarkable ability to "maneuver under fire" perfected against the Nationalist Chinese and the French, reached new levels of refinement during the second Indo-China War against the United States.

General Giap learned quickly to accommodate his strategic plans to the new realities imposed by American firepower. The North Vietnamese relearned the importance of dispersion and patience. They redistributed their forces to keep their most vulnerable units outside the range of American artillery while they moved their logistic system away from battle areas into sanctuaries relatively safe from aerial detection and strikes. Thus, the VC and NVA dusted off and applied many of the same methods that had proven useful in previous Asian wars against Western style armies.

From Vietnam to Afghanistan:

Half a decade later, and half a continent away in Afghanistan, the Soviets learned the same harsh, firsthand lessons of overconfidence when first-world military organizations confront third-world militaries which have the will, tenacity, and skill to remain effective in the field despite complete firepower inferiority. Year after year, the Soviets arrayed themselves for conventional combat and pushed methodically up the Panjir Valley only to be expelled a few months later by a seemingly endless and psychologically debilitating series of methodical and well-placed ambushes and minor skirmishes. Borrowing a page from the American textbook in Vietnam, the Soviets tried to exploit the firepower, speed, and intimidating potential of armed helicopters. They employed helicopters principally as convoy escorts and to provide fire support. At times, Hind helicopters proved enormously lethal and effective, particularly early in the war, when the

Mujahideen were psychologically unprepared. But the Mujahideen eventually borrowed a page from the Vietnamese textbook. They first learned to employ heavy antiaircraft machine guns and later Stinger shoulder-fired missiles to shoot the gunships down in increasing numbers. The result of military frustration and defeat in Afghanistan presaged the collapse of the Soviet Union.

Israel and the Middle East:

Beginning in 1982, after nearly three decades of failure in open warfare, an alliance of Arab state and non-state actors pushed Israeli mechanized forces out of Beirut. Back streets, tall buildings, and other forms of urban clutter provided the Arabs just enough respite from the firepower intensive methods of the Israelis to wear away Israeli morale both in the field and at home. Unable to bring the full force of their superior maneuverability and shock effect to bear, the Israelis paused just short of their operational objectives. Excessive casualties and the public images of bloody excesses on both sides eventually resulted in an Israeli withdrawal from Beirut. This success in Beirut soon provided Israel's enemies in the region with a new and promising method to offset the Israeli superiority in open mechanized combat. Now a spectrum of low-tech threats, that run the gamut from weapons of mass destruction delivered by crude ballistic missiles, to random acts of terrorism, to children throwing rocks at soldiers, confront an increasingly frustrated Israeli military and public.

One of the more curious ironies of the recent wars in the Middle East has been the fact that Western style militaries have had great success when fighting against non-Western enemies who mimic Western firepower doctrines. The Gulf War is the most recent example of failed efforts by Arab states stretching back through the conflicts in the Middle East to 1948. In 1973, Arab armies enjoyed some measure of success while employing Western methods, but their success was as much

due to Israeli overconfidence as to the limited aims the Arabs sought.

Operation Desert Storm:

During the Gulf War, despite an extraordinary level of incompetence at the highest level of the Iraqi leadership, the Iraqi Army displayed considerable capacity to adapt on the battlefield. As the American air campaign began to focus on the destruction of the Iraqi ground forces in the Kuwait Theater of Operations (KTO) in early February, the Iraqis almost immediately began to adapt in order to limit their losses.⁹ By constructing berms around their tanks and by scattering them widely across the desert, the Iraqis insured that an aircraft dropping precision-guided bombs would only be able, at best, to destroy a single vehicle with each pass. By burning tires next to operational vehicles they spoofed their tormentors into missing the real targets; and finally by using anti-aircraft effectively they kept a substantial portion of coalition aircraft at an altitude where they were unable to do substantial damage.

The best trained Iraqi units endured several weeks of allied air bombardment with unbroken will and their combat capability essentially intact. The most impressive indication of the Iraqi ability to adapt came in the operational movement of a substantial portion of the Republican Guard during the first hours of Desert Storm. Elements of two divisions shifted from a southeastern defensive orientation to defensive positions facing to the southwest along the Wadi al-Batin. In those positions the Tawakalna Republican Guard Division and the 50th and 37th Armored Brigades would be destroyed by the U.S. VII Corps.¹⁰ Nevertheless, sacrifice by these units provided time for the remainder of the Republican Guard to escape. Significantly, the Republican Guard

carried out this movement in terrain and weather conditions ideally suited to interdiction and despite the overwhelming superiority of coalition air power.

NATO and Kosovo:

Placed in suitable historical context, the Serbian response to the NATO onslaught is nothing more than another data point along a continuum of progressive, predictable adaptation by technologically dispossessed militaries who are willing to challenge Western militaries armed with superior precision firepower. Like their fellow Asian travelers, the Serbs sought victory by avoiding defeat. In a similar fashion, the Serbs conceded the vertical dimension of the battlespace to NATO. They were content with an approach that only hoped to shoot down a few allied aircraft using ground mounted guns and missiles. This hope was underscored with the expectation that a few dead or captured allied airmen would contribute to the gradual degradation of NATO's resolve. Even if a shoot down was not possible, the Serbian force sought to keep their anti-aircraft assets sufficiently viable because they knew ground targets would be difficult to spot from high altitudes.

The surest way for the Serbians to avoid defeat was to keep their army in the field viable — both to act as a defiant symbol of national resolve and to be the legitimate Serbian guarantor of sovereignty over the occupied territory. To maintain an effective “army in being,” the Serbs likewise borrowed from successful past precedents. Units quickly went to ground, and dispersed across a broad expanse of territory. They quickly computed the pace at which the allies could find, target, and strike uncovered targets and then devised the means to relocate mobile targets inside the allied sensor-to-shooter envelope. Camouflage, decoys

9. Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War*, Washington, DC: Office of the Chief of Staff United States Army, 1993.

10. Scales, *op. cit.*

and spoofing techniques proven so effective by Asian armies were repeated with varying degrees of success by the Serbs. As the allies became more proficient at spotting troops, the Serbs sought even greater dispersal and went deeper to ground.

Toward the end of the conflict, significant success from the air came with the appearance of an infant ground presence in Kosovo in the form of the Kosovo Liberation Army. The KLA was not terribly effective in open combat against the better armed Serbs but the presence of large scale KLA units amongst them forced the Serbs to come out of protective cover and mass. The results were predictable and remarkably consistent with past experiences in combat against the Chinese and NVA. Troops moving, massed, and in the open present the most lucrative targets for destruction by fire from the air. Yet the Serbian army was never severely damaged because it was simply too large and well protected to be completely destroyed from the air. Since total destruction was not feasible, as in all battles of attrition, the contest in Kosovo soon devolved into a test of time and will. Ultimate victory would be achieved by the side that could endure the longest without collapsing their national resolve. Once it became evident to Milosevic that NATO's political resolve would not be broken before a threatened ground assault could materialize, he chose, as always, the most expedient path. Seeking to ensure his own political survival, the Serbian leader ceded Kosovo to the Allies.

Implications for the Future:

The example of Kosovo again reinforces the conclusion that non-Western militaries are increasingly internalizing the lessons of recent wars against technologically superior foes. Recent thoughts and writings concerning the operational and tactical problems confronting them in a fight against Western style military organizations suggest some clear warnings for the future.

First, non-Western militaries understand that the West does possess vulnerabilities: an aversion to casualties and excessive collateral damage, a sensitivity to domestic and world opinion, and an apparent lack of commitment to prepare for and fight wars that are measured in years rather than months. They also perceive that Americans, in particular, still remain committed to a style of war focused primarily on the single offensive dimension of precision strike. Moreover, they are already thinking about how to target Western vulnerabilities while capitalizing on their three intrinsic advantages: time, will, and the inherent power of the defensive. Taking a page from Mao and Giap's strategy, our potential future opponents have learned the value of time and patience. From their perspective, swift success is not essential to achieve ultimate victory.

Future adversaries have also discovered the apparent advantages that can be gained when they interfere with an intruding power's intention to end the conflict quickly and at minimum cost. Thus, the logic of their strategy will lead to efforts that impede rather than prevent the intrusion of a Western opponent. In recent wars, non-Western armies have learned to limit the damage and duration of air campaigns by dispersing their forces in the field and by distributing telecommunications, logistics, and transportation infrastructures as widely as possible. Moreover, they understand that sophisticated air defense networks, whose effectiveness depends on airfields, surface to air missile sites, and complicated and vulnerable command and control nodes, have become more of a liability than an asset.

Once conflict on the ground begins, potential opponents understand they must capitalize on their superior mass to offset the lethal firepower and precision technology of Western armies. They will capitalize on the positional advantages of being on the defensive in or near their own territory. As they gain confidence, they will search for opportunities to mass sufficient force to achieve local successes. As in the air campaign, the enemy will seek to

frustrate Western ground forces by employing just enough modern weaponry to extend the campaign indefinitely. A few precision cruise missiles against major logistic bases will add to the casualty bill that Western militaries must explain to their civilian populations back home. The object will not be decisive victory, but rather stalemate. More importantly, a stalemate arrangement will inevitably result in the erosion of Western political support for the conflict, especially if it is sustained for any prolonged period of time.

Early Signals of Change:




































As non-Western militaries develop concepts for defeating the American firepower-centered method of war, the character and composition of their forces will slowly change. The impulse that existed during the Cold War to mimic Western force structures is rapidly disappearing. Foreign militaries that were once Cold War clones are taking on identities unique to their own culture and

societies. The mountains of metal, consisting of expensive yet often second-rate air, sea, and ground machines of war that today serve as potentially lucrative targets in a conflict against modern Western militaries are rapidly disappearing. Non-Western armies, in particular, are getting lighter. The need to survive and remain effective against the threat of overwhelming Western killing power is forcing them to develop means to disperse, hide, or if possible eliminate the vulnerable logistics, transportation, and telecommunications facilities that now characterize the Western way of war.

Evidence of this trend lies in the shopping lists of many wealthier non-Western militaries. Instead of investing in sophisticated aircraft and blue water fleets, most are purchasing or developing cheap weapons of mass destruction and methods of delivering those weapons. Mines, both sea and land, as well as distributed air defense weapons add credence to the conclusion that the intent of these

Non-Western Militaries Adapting to the Realities of the Precision Age

- Shedding Cold War impedimenta
- Streamlining forces: Less weight, more mobility
- Less corrupt, more ideologically tuned
- From internal security to regional projection
- More mature, professional, educated
- Doctrinal focus on Operational Art-Deflect air/seapower to preserve “Armies in being”
- Off-the-shelf information age technologies
- Just enough conventional weapons technology to keep low tech forces viable
- Offensive strategy: Satisfy long simmering hegemonic ambitions
- Defensive strategy: Primitive strategic forces to prevent interference from abroad

	Army	Asymmetric Investments				
India	980,000					
North Korea	923,000					
Pakistan	520,000					
Iran	350,000					
Iraq	375,000					
Russia	420,000					
China	2,090,000					

militaries is to use such weapons as a means to keep potential enemies at bay. Most defense expenditures and attention are going toward land forces because armies provide political legitimacy in non-democratic states. They are also the most useful instrument for regional wars of aggression, as well as the surest means for suppressing internal dissent and thwarting troublesome outsiders.

The Information Age Is Neutral:

At present there are too many in the U.S. and other Western military organizations who believe that they can best address the appearance of a major competitor in the next century by exploring the technologies of the information age to develop ever more effective means of finding the enemy and killing him from a distance. There are, unfortunately, a number of troubling concerns with this premise. The most obvious is that the information revolution will be neutral in this looming competition; in fact it may favor the competition more than it favors Western militaries because potential enemies will be able to tailor new technologies to their particular style of war without becoming information-dependent. On one hand, the increasing flow of information is quite literally drowning commanders, staffs, and intelligence organizations. This information overload challenge is one of the crucial by-products of the information age—one that we have yet to solve. The evidence is already clear that information technology will not simplify the decision-making process, but in fact makes it more complex. Our future opponents, however, given their expectations and aims, will require much less information to strike effectively—particularly since their aim is not to win a decisive victory. They will be, moreover, less dependent upon the microchip to conduct their method of warfare. A thinking opponent will quickly realize that our intensive reliance on information age technologies becomes a weakness that can become an asymmetric target.

A reading of current military writing from abroad, particularly Asia, reveals that many armies are already placing extraordinary emphasis on information operations and information warfare. At present, American analysts are taking considerable comfort in the observation that few have made serious investment toward either information warfare or precision systems similar to those possessed by Western military organizations. What, however, they fail to see is that Asian armies already understand that advances in information technologies will favor their style of warfare just as much as it does the western style. In particular, the Internet and wireless, non-nodal communications will allow dispersed armies to mass rapidly. As information becomes more secure and information centers more dispersed and less vulnerable, potential opponents will wield more flexible and agile land forces. Moreover, they will be able to divide their forces into smaller and thus less detectable increments. In perhaps one of the strangest potential ironies of the future, Western information technology may well provide non-Western armies solutions to two vexing problems. First, cellular technology and the Internet may allow them to maintain a concert of action for long periods among widely dispersed units. Second, these same technologies will allow them to orchestrate the rapid massing of dispersed units when opportunities arise to transition onto the offensive.

The result may well be a technological foot race that either side could win. As we develop the technologies to find and kill an enemy, our potential opponents will develop the technologies to become even more difficult to find. The prospect becomes even more sobering when one considers the fact that the commercial sector is now in the process of providing future competitors with the tools they need, as our research centers continue to perfect non-nodal, distributed, and netcentric global information technologies for paying customers on a world-wide basis. Moreover, potential U.S. opponents do not have to spend a dime for the development of any of these systems.

And again we must remember that such opponents have a very different strategy in mind for the next war. They have only to create a stalemate and inflict sufficient casualties on Western forces to raise political difficulties for the political leaders who decided to intervene—in the words of Neville Chamberlain—in “a quarrel in a far away country between people of whom we know nothing.”

Defeating the Adaptive Enemy:

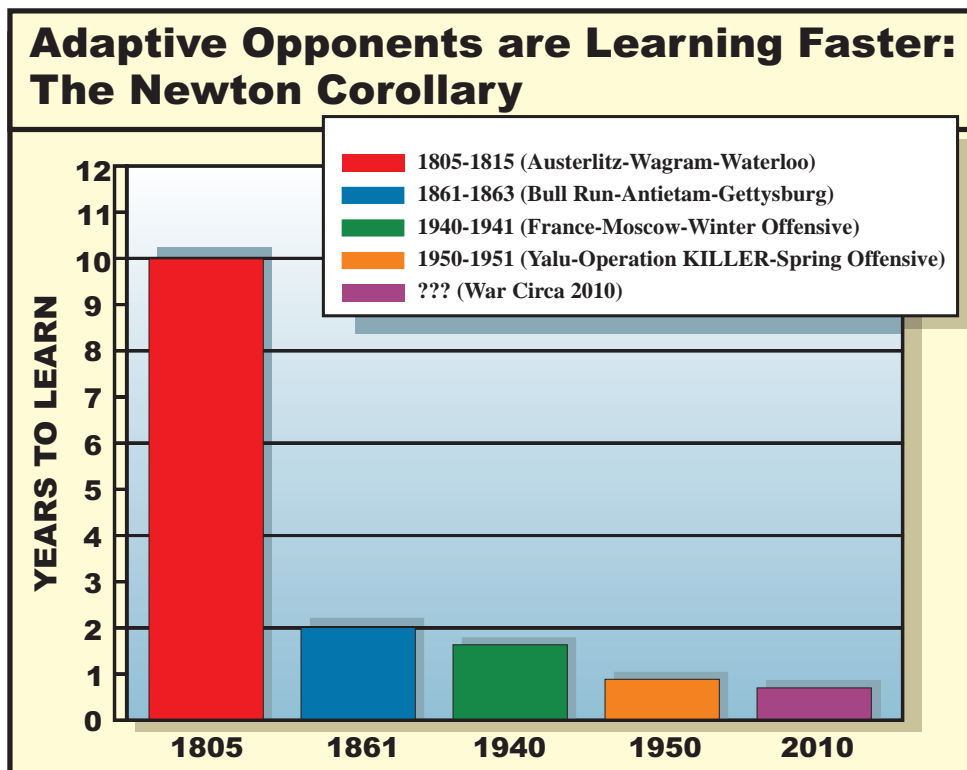
Clausewitz provides us with a harsh and accurate warning about the fundamental nature of war:

War, however, is not the action of a living force upon a lifeless mass (total nonresistance would be no war at all), but always the collision of two living forces. The ultimate aim of waging war ... must be taken as applying to both sides. Once again, there is interaction. So long as I have not overthrown my opponent I am bound to fear he

may overthrow me. Thus, I am not in control: he dictates to me as much as I dictate to him.¹¹

It is this fundamental Clausewitzian point that Western, and American military organizations in particular, are in danger of forgetting. Our potential opponents in the next century will have thought long and hard about how to attack our weaknesses.

To be sure, firepower can be paralytic in its effect. But paralytic effects by fire are always fleeting. Armies have shown time and again that they can become inured to the paralytic effects of firepower and can even learn creative ways to lessen its destructive effects. Add to this factor the ability of non-Western armies to utilize the advantages of time, mass, will and the power of the defensive, and the single American advantage of superior killing power becomes much less persuasive as an instrument of war than it appears on first consideration.



11. Carl Von Clausewitz, On War, edited and translated by Michael Howard and Peter Paret, p. 77.

The corollary to Newton's fundamental law of physics echoes with a sense of urgency: every successful technical or tactical innovation that provides a dominant military advantage eventually yields to a countervailing response that shifts the advantage to the opposing force. America's military dominance in firepower and attrition warfare has been on display for almost five decades. We must anticipate a future military

challenge that will attempt to defeat our preoccupation with precision strike. We must use the time we have in the decade ahead to restore balance in our future method of war. Our future arsenal of military capabilities must include a 21st Century sword with two equally compelling edges: precision maneuver as well as precision firepower. Without these two applied in balance and harmony, future conflicts might well devolve into massive

wars of attrition. Let's begin now to take on the

challenge of a future adaptive enemy and begin now to build a balanced force to defeat him.



From Korea to Kosovo: How America's Army Has Learned to Fight Limited Wars in the Precision Age

Major General Robert H. Scales, Jr.

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From Korea to Kosovo: How America's Army Has Learned to Fight Limited Wars in the Precision Age

Every age has its own kind of war, its own limiting conditions, and its own preconceptions. Each period, therefore, would have held to its own theory of war.¹

Carl Von Clausewitz

Many in the professional ranks of the American military see the reluctance to put soldiers on the ground in Kosovo as a disturbing precedent that calls for future wars to be fought and won by air power alone. A close examination of American battlefield performance, however, suggests that the Kosovo experience marks nothing more than another data point, albeit a dramatic one, along a clearly defined continuum of transformation by the United States. Since the end of the Second World War, America's military forces have adjusted their unique capabilities to produce a new style of warfare. This is the result of a fundamental shift in the relationship between the dynamics of firepower and maneuver. When the dynamics of combat undergo substantial transformations, radical shifts in doctrine must be made to accompany and capitalize upon them. During this last half-century, the principal factors affecting the conduct of war—geostrategic, political and technological conditions—have been altered by the events of our time.

Geostrategy:

The end of the Cold War stand off between the two major global powers removed the protective blanket that had dampened all of the old ethnic, tribal and religious embers left smoldering since the end of the Second World War. Lifting great power control gave the green light for aggressive regimes to set about righting perceived regional wrongs. Frustrated autocrats felt free to satisfy

their hegemonic ambitions usually at the expense of some less powerful neighbor. At home, national paranoia over the threat of a great cataclysmic war gave way to social outrage directed at powers who tramp on the territory, rights, or well-being of lesser states.

No longer are our wars desperate struggles to preserve our right to exist as a nation. Instead, our most recent conflicts have been fought as wars of conscience to further peripheral interests in many diverse corners of the globe. Our potential enemies are increasingly being perceived as local tyrants who are intent upon gaining hegemony over some part of the world only tangentially important to our domestic welfare.

Technology:

The course of war would be difficult enough to anticipate if the shifting relationships between international actors were the only significant factor to influence change in the future. But we must also account in our calculation for the fact that we live in a transitional era set within a crease between the machine age and the information age. The microchip is altering the way armies fight just as thoroughly as did the gasoline engine and radio by lifting armies off their feet and mounting them inside land and aerial vehicles.

We know enough now from field experiments and practical experience with information age

1. Carl Von Clausewitz, *On War*, edited and translated by Michael Howard and Peter Paret, Princeton: Princeton University Press, 1976, p. 593.

warfare to anticipate with some clarity how the microchip will continue to alter the course of war. The battlefield will continue to expand, perhaps geometrically, now that communications no longer effectively limit the amount of territory a military force can occupy and control. The ability to see with great clarity and strike with even greater precision will force ground units to take full advantage of the opportunity to spread out and disperse in order to survive. Fear of destruction in detail by precision strikes, principally from above, has already made linear, echeloned, massed armored formations an anachronism of a machine age that is now just passing.

Domestic Politics:

Both the geopolitical and technological trends of the recent past have raised expectations by the American people that our wars will be fought in a manner such that the political ends are worth the costs and the costs are increasingly measured in terms of expenditures of human life. Casualties soon may represent a dominant, perhaps the dominant measurement of success or failure in wars of limited ends and means such as Kosovo. Dead Americans are becoming our most vulnerable center of gravity—and our enemies know it. As we have seen from recent events, serious doubts on the part of our national leaders about casualties may not only delay, but may well prevent commitment of ground forces.

The tolerance bar that we use to measure our casualties has been driven ever downward by America's changing attitudes toward conflict. Since our most recent wars have been fought increasingly to further peripheral interests abroad rather than for national survival, we are less willing as a nation to send our sons and daughters into harm's way. Likewise, modern weapons technology has also raised the expectation that precision weapons can now substitute explosive killing power for manpower on the ground.

Limited War Precedents: Korea to Vietnam:

To its credit the American military began, intuitively at least, to sense these shifts in battlefield dynamics as early as the Korean War, the first of our modern wars in which limited strategic interests did not justify unlimited commitment. Combat commanders in the field, quick to recognize the importance of preserving the lives of their soldiers, routinely modified their way of fighting to achieve success at minimum cost. The most pervasive doctrinal adjustment made during our first two experiences with limited war was to increase the firepower available to support maneuver forces in close combat and to lessen the exposure of close combat soldiers to direct attack by the enemy.

Early battles in Korea began with the application of doctrinally correct proportions of firepower to maneuver inherited from the Second World War. Very quickly, however, field commanders increased their demand for artillery and air power to support ever more compact and self-contained assault forces. What began as traditional dismounted infantry assaults in 1950 soon became elaborate tank, infantry, and firepower intensive demonstrations intended to gain the objective with minimum cost in lives.

During the Battle of Soryang in the spring of 1951, twenty-one battalions of artillery fired over three hundred thousand rounds in five days in support of a single push by X Corps. Two years later, at Pork Chop Hill, nine battalions fired over thirty-seven thousand rounds in less than twenty-four hours in support of a single regimental assault. As the weight of firepower increased, the densities of infantry formations decreased in proportion. By the winter of 1950-51, General Ridgway conducted most of the Eighth Army counter attacks at regimental level. That spring, Ridgway consistently used nothing larger than company teams to spearhead his advance to the Han River.²

Similarly in Vietnam commanders learned quickly and adapted a European style, maneuver-centric method of war to match the realities of limited war in constricted Asian terrain. Close combat units gradually increased the proportion of supporting fires and lessened the exposure of lead elements moving into contested areas.

General William DePuy, commanding the First Infantry Division in 1966-67, realized quickly that artillery and tactical aircraft were responsible for most enemy casualties. His casualties, on the other hand, came principally from three sources: enemy mortars, concentrations of enemy small arms fire delivered against infantry units in set-piece ambushes, and mines. His common sense solution was simply to use much smaller infantry units to locate and fix the enemy, usually squads or platoons, and then orchestrate a varied medley of supporting firepower systems to do most of the killing.³

Once the enemy was located, the infantry's task was to stay out of the killing zone, avoid decisive engagement and pull back just far enough to allow effective delivery of ordnance, but not so far as to allow the enemy breathing space to disengage and escape the firepower trap. The old infantry adage "close with and destroy the enemy" became simply get close enough with as few forces as possible to "find, fix, flush and set up the enemy for destruction by fire."

DePuy was among the first to grasp the fact that modern firepower technology and the imperative to win at lower cost together were sufficient to cause a shift in the relationship between firepower and maneuver. In later years he was fond of saying "On a battlefield increasingly dominated by lethality, if you can be seen you can be hit, if you can be hit, you will be killed." Whether

traditionalists liked it or not, DePuy believed that the balance had in fact shifted to the point that firepower systems, not infantrymen, had now become the central instrument for achieving decisive effect on the battlefield. To DePuy, the doctrinal maxim that firepower supported maneuver may well have been reversed.⁴

While seeming to offer the promise of less costly victories, DePuy's concept of maneuver supporting fires failed to last as a viable doctrine much beyond Vietnam. There were cultural objections. Commanders rightfully feared that training combat soldiers not to close with the enemy might diminish fighting spirit and create hesitation and a loss of decisiveness and élan.

Experience in real combat also demonstrated shortcomings of a firepower-centered doctrine. The most persistent complication was offered by the enemy who learned over time how to lessen the killing effects of our fires. After suffering horribly from American firepower during the Tet offensive in 1968, the North Vietnamese quickly changed their fighting doctrine. They learned to "hug" close to units in contact and to keep larger formations dispersed and positioned just out of artillery range. The enemy soon became very adept at hiding in built-up areas and the jungle. They also learned imaginative ways to deceive reconnaissance and spoof even the most sophisticated detection technologies.

Second, pressure late in the war to reduce casualties served to pervert DePuy's intent. As the war dragged on, firepower became too much of a good thing. Maneuver commanders began to complain that a firepower intensive doctrine had become a millstone around their necks. A single example serves to make the point. The "force-feed-fire support system" used by the 25th Infantry

3. Paul H. Herbert, *Deciding What Has To Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations*, Leavenworth Papers, No.16, Fort Leavenworth, KS: Combat Studies Institute, 1988, p. 19-23.

4. John L. Romjue, *From Active Defense to Airland Battle: The Development of Army Doctrine, 1973-1982*, Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1984, pp. 8-9.

Division toward the end of the war relegated the control of every contact, however minor, to the duty officer at division headquarters. He was instructed automatically to dispatch a stream of firepower systems into the fight to include Air Force gunships, tactical airpower, attack helicopters, and even “flame bath” helicopters equipped with napalm. The firepower would come even if the battalion commander felt that such a rich dose was either wasteful or counter to his scheme of maneuver.⁵

Another extreme example of the debilitating influence of firepower late in the war comes from a corps artillery commander in the Central Highlands region of Vietnam who reported that his command fired almost two million rounds in seven months of relatively inactive combat equating, by his best estimate, to a ratio of 1,000 rounds or roughly \$100,000 per kill. Lives were saved to be sure, but the resulting loss of flexibility and control was rightfully lamented by infantrymen on the ground.⁶

Yet in spite of these shortcomings, maneuver commanders returning from Vietnam supported DePuy’s hypothesis. The new limited war imperative to win at minimum cost demanded that the traditional balance between fire and maneuver be altered significantly just as DePuy suggested. A remarkable study done by a group of returning infantry commanders at the Army War College in 1969 concluded that firepower was now the dominant factor on the American battlefield. They wrote that maneuver is performed primarily to pinpoint the location of the enemy, and to increase the effectiveness of the massive application of fire on the enemy. Ideally the enemy should be killed at the maximum effective range of organic weapons. The need to advance infantry to “zero”

range will proportionately increase friendly casualties and decrease the ability of foot infantry to maneuver or use fire support.⁷

Post Cold War Precedents:

Practical experience in subsequent wars continued to reinforce the lesson that the cost of a conflict must remain in proportion to the perceived value of the endeavor. The Gulf War in particular taught the value of a protracted preliminary aerial bombardment to wear down and demoralize the Iraqis sufficiently to make the land campaign as casualty free as possible. The battlefield continued to thin in the Gulf as the firepower quotient rose. The range and lethality of modern tanks and the ability of maneuver forces to see vast distances in the desert allowed armored formations to open up to an unprecedented degree thereby exposing forward maneuver elements as little as possible. What might have constituted a battalion front in World War II was now occupied by a force as small as a platoon. Instinctively when faced with the realities of real war against a thinking enemy the Army returned to DePuy’s maxim of minimum exposure for maximum killing effect.

The loss of eighteen rangers in close, back alley fighting in Somalia dramatically underscored a corollary to DePuy’s maxim: a tactical engagement fought for too high a price for too little return might very well by itself determine the strategic outcome of a national endeavor.

Recent experience in Kosovo now seems to suggest that the bar continues to lower as the country begins to accept the burden of limited liability wars fought to prevent harm to one ethnic or cultural group by another. Some even suggest that the bar has been lowered so much for wars like

5. Robert H. Scales, *Firepower in Limited War*, Washington DC: National Defense University, U.S. Government Printing Office, 1990, pp. 287-296.

6. Scales, p. 143.

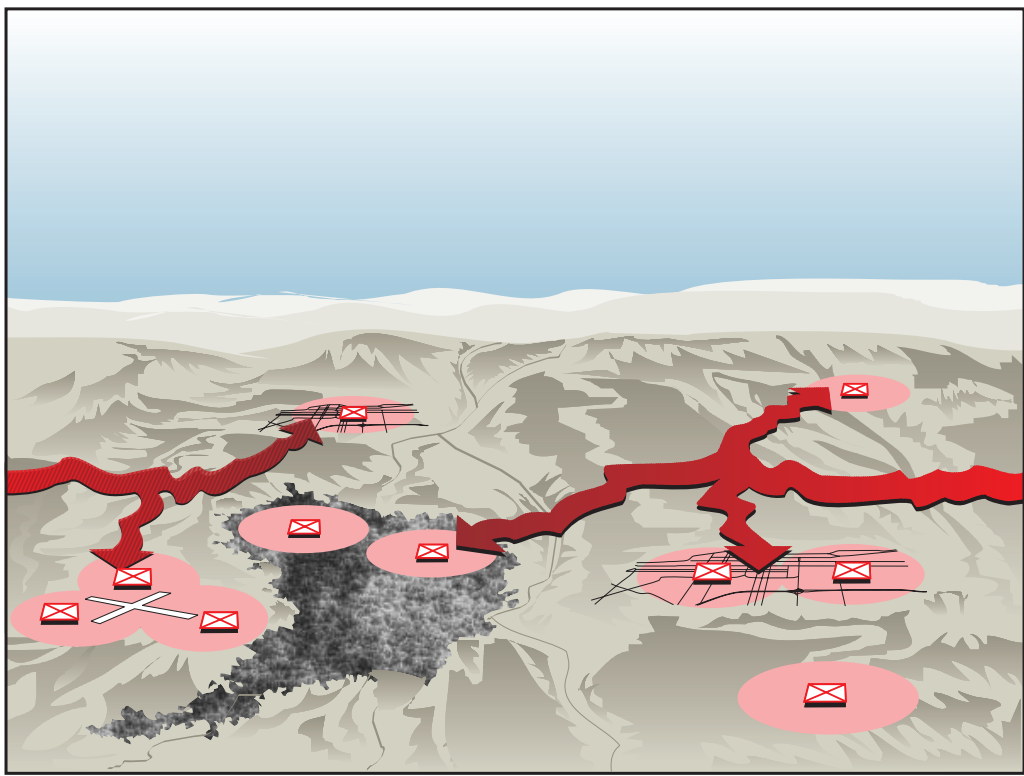
7. Richard E. Cavazos, et al., “Analysis of Fire and Maneuver in Vietnam: June 1966 - June 1968,” unpublished Student Research Paper, U.S. Army War College, Carlisle Barracks, PA, 1 March 1969, pp. II-v and II-210, II-212.

Kosovo that a ground campaign with its attending risk of casualties is a thing of the past at least for American troops. Perhaps, the argument goes, the precision revolution has given us the ultimate tool, the silver bullet, to win future wars by firepower alone.

However, a closer look at Kosovo suggests that, while improvements in precision munitions may continue to tilt the firepower-maneuver equation in favor of the former, the nature of the enemy and the immutable character of war continue to argue for the preservation of balance between the two classic components of war. The Serb reaction to firepower dominant assault was remarkably similar to the North Vietnamese over a quarter century before. The Vietnamese realized that overwhelming firepower alone could never compensate for the presence of an aggressive force on the ground to find, fix and fight them in close combat. Without a ground threat, they merely had to array their forces in order to endure punishment by fire alone.

Serb tactics followed the Vietnamese example with remarkable fidelity. Units went to ground and dispersed over wide areas. Soldiers hid their equipment with great skill and constructed dummies that proved effective at spoofing aerial observers and image interpreters. Trouble for the Serbs arrived with the ground threat from the Kosovo Liberation Army. However amateur and ineffective, the presence of the KLA in their midst forced the Serb army to come out of hiding and begin to mass. Once in the open, the Serbs were obliged to trade the security of their hiding places for battle in the open.

If Kosovo suggests that maneuver still remains essential to a balanced approach to war, how then do we resolve the problem of maneuvering without suffering excessive casualties? Back to DePuy and his maxim. DePuy's maxim correctly grasped the trend of the expanding battle area as the range and lethality of weapons continues to increase. Soon the battlefield will become so expansive and porous that the conventional schemes for ground

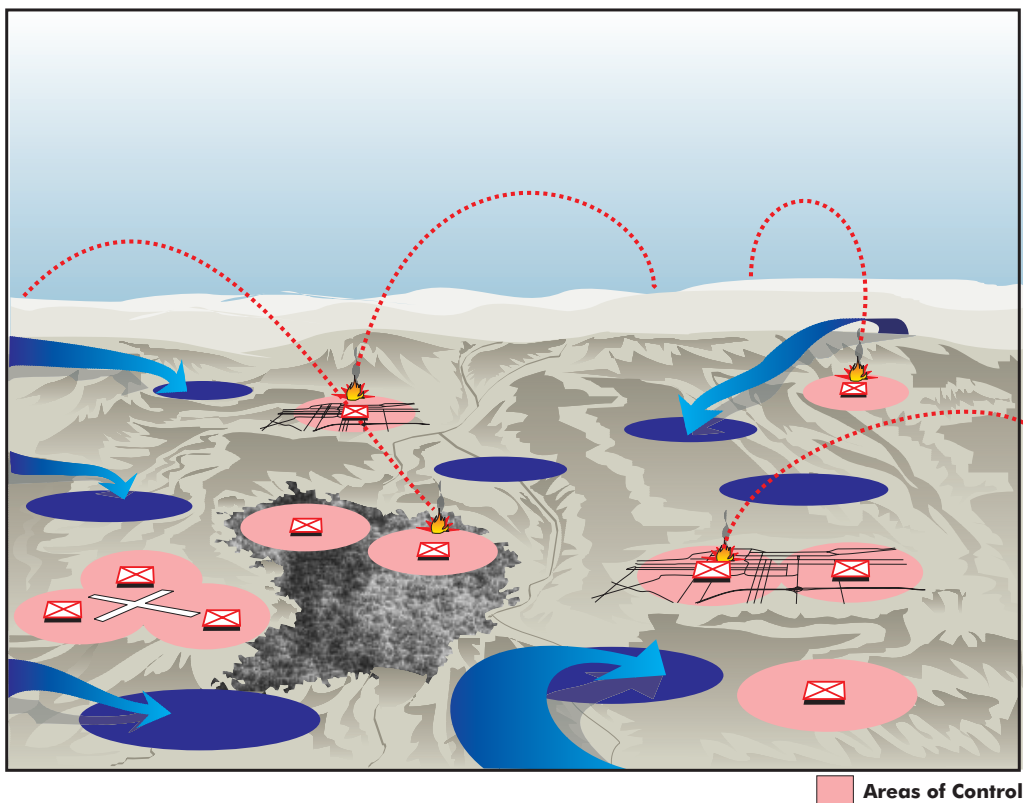


Enemy Invades, Disperses and “Sets” Defensively to Absorb Precision Strike.

maneuver may well play more to the advantage of the enemy rather than to ourselves. On an expanded battlefield an adaptive enemy, armed first and foremost with patience and guile, might well be able to offset our advantage of superior firepower with a countervailing strategy centered around the occupation and control of large thinly occupied areas of territory. His tactic will be defensive and centered on controlling ground. He cedes the other dimensions of war because he knows he cannot compete against a technologically superior enemy on the sea and in the air. On the defensive, he may appear to lose the initiative and with it, in the conventional wisdom, the ability to win, but like George Washington during our Revolutionary War, not losing either forces or ground becomes the effective equivalent of a new kind of winning. So his object is not to win but to avoid losing by holding on and preserving his forces in the field just long enough for the enemy to tire of the conflict and go home.

DePuy's maxim, reinforced by experience in Kosovo, suggests that as an enemy disperses across a broad area and goes to ground in order to avoid destruction by fire he makes his force increasingly vulnerable to defeat by maneuver. A dispersed enemy force cannot mass quickly, nor can it cover all of its territory by fire from static positions. An enemy gone to ground cannot see beyond the end of its nose and cannot react in time to turn back forces which might suddenly rush to occupy the uncovered, unprotected terrain in its midst.

But DePuy also demonstrated that a ground force must change its style of maneuver to gain full advantage of the potential provided by modern firepower systems. A force optimized to fully exploit precision fires must be able to maneuver quickly against a dispersed, static enemy. This can only be done if that force has adopted new methods of warfighting at the strategic, operational and tactical levels of war.



Intervening Force Interposes Enclaves between Enemy's Major Defenses.

Strategic:

The surest way to win at minimum cost is to win quickly. A decisive, quick victory can best be assured by an early arriving force of overwhelming power capable of conducting a strategic takedown. A “strategic preemption” force would first seek to use airpower to frustrate enemy deployment long enough for early arriving ground forces to position themselves between the enemy and his initial operational objectives. Enemy ground forces caught in the act of deploying or moving forward in the attack can be easily targeted and destroyed by precision weaponry.

Time is a particularly critical factor on a battlefield dominated by firepower. As we have seen in Korea and Vietnam too long a delay in collapsing an enemy greatly heightens the risk that an act of strategic preemption will be stretched into a wasteful war of attrition—a war the enemy knows we cannot win. As we have seen from our own recent experience with limited wars of attrition, given enough time an enemy will learn to avoid destruction by dispersing and burrowing into the countryside or by massing inside his urban terrain.

Our difficulties with projecting forces to Korea, Iraq, Kosovo and elsewhere, tell us that quick victories are hard to achieve when an intervening power like the United States is an ocean away from an enemy who perhaps has only to violate a neighbor’s territory to fulfill his aggressive intentions. An enemy acting unilaterally can mobilize quickly and achieve almost total surprise. A major power like the United States, on the other hand, can respond only with great deliberation. Time must be taken to build political consensus for action both at home and within the international community. Thus the chance exists that an enemy will be able to initiate aggressive actions, or even possibly gain his initial objectives before we can intervene.

The example of the Serbian dash into Kosovo demonstrates the particular futility of attempting to

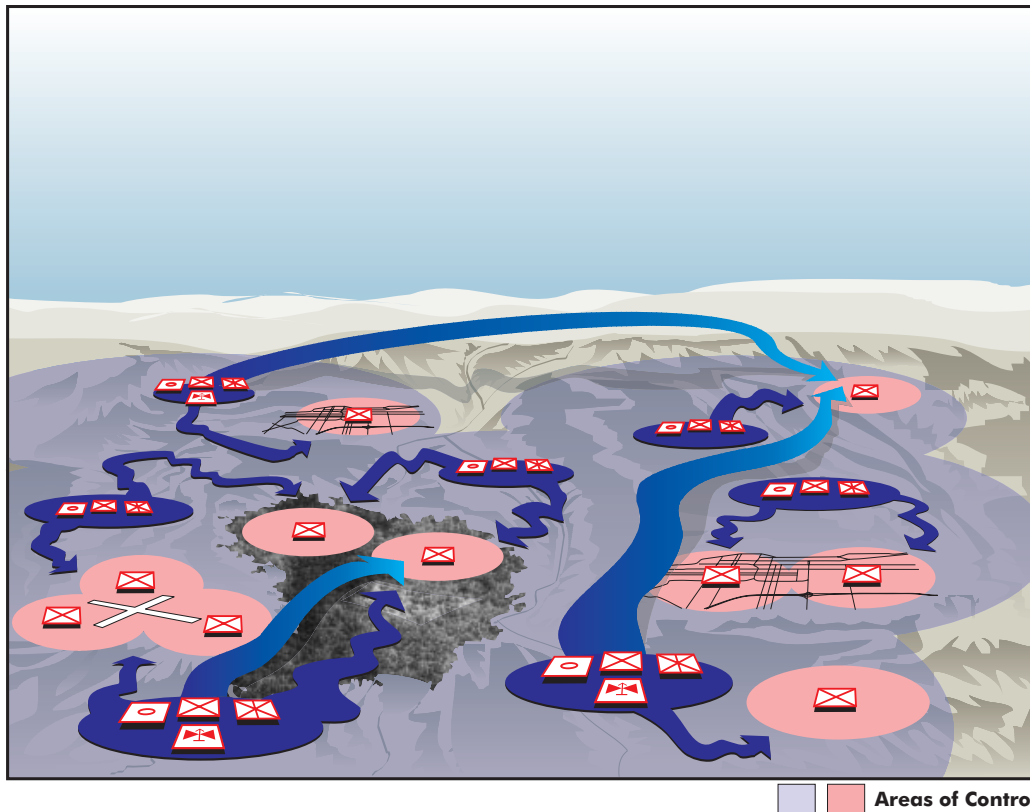
preempt an enemy force using airpower alone. Similar experiences with strategic intervention by air in previous limited wars suggests that such an effort can be made orders of magnitude more effective if aerial platforms are guided to their targets by eyes on the ground. Special operations forces planted deep inside North Korean, North Vietnamese, and Iraqi territory have proven their ability repeatedly both to survive and to take away the enemy’s ability to hide from or spoof attacking aircraft.

Given the right strategic conditions and resources, however, strategic preemption can succeed and succeed decisively. Our strategic takedown in Panama took only a day to cause the collapse of Noriega’s army of thugs. The secret of success lay in the ability of the American command to synchronize the delivery of overwhelming power simultaneously against a multitude of objectives spread throughout the entire Republic. That power was an effective mix of air operations to paralyze and disorient through selective destruction and ground operations to seize, hold and ultimately to confirm the effects.

Before the Panamanian forces could even begin to comprehend what was happening, they found themselves surrounded, overwhelmed and blocked at every turn. Victory, as evidenced by the disintegration of the PDF, came, not with physical destruction so much as with the utter inability of the enemy to react effectively in any direction, leading to the ultimate collapse of his will to resist.

Operational:

The apparent shift in the firepower-maneuver balance in favor of firepower works to the disadvantage of a force which seeks to intervene in a distant theater and operate offensively against a static foe. It has been a long-standing tenet of warfare in the modern age that a firepower dominant battlefield environment favors the defensive. Experience has shown that the surest



Enemy Has Two Choices: Defend and Concede the Initiative, or Mass, Attack and Be Destroyed.

way for an offensive force to overcome this disadvantage and succeed on a firepower dominant battlefield is to employ an operational offensive-tactical defensive method of war. The concept is both simple and timeless. An attacking force maneuvers to place himself between the defender and his line of communications. The defender then can either remain static and wither or leave the security of his defenses to attack the force to his rear now set firmly in place and ready to receive him. Defenders like the Serbs who must disperse and go to ground in order to survive a precision attack are particularly vulnerable to such a stratagem because the attacker can take advantage of the enemy's thinly occupied battlespace to locate and then occupy voids left uncovered by fire and observation.

The secret of success against an enemy gone to ground would be to paralyze him with precision fires just long enough to allow an early arriving ground force to simultaneously occupy multiple

points throughout the enemy's area of operations and saturate the enemy's most vital areas with small, discrete, autonomous and highly lethal, mobile combat elements.

In order to gain and maintain maneuver dominance ground combat units would not need to physically occupy key terrain or confront enemy strong points directly. Instead, an intervening force would occupy uncontested terrain close enough to control and thus dominate these vital centers through direct observation and the use of short-range precision weapons. Such a violent, unanticipated and overwhelming act would take the form of a strategic takedown or coup de main rather than a conventional form of linear maneuver.

A once cohesive body of enemy forces would now be divided into isolated pockets, each a sub-critical mass severed from its parent body unable to communicate or maintain itself for very long without resupply and unable to be reinforced.

Once the intervening force gains the advantage of position over the enemy the factor of time also shifts to his favor. The enemy cannot linger very long in a fractured state. His choices are either to fight or wither. But fighting will be a problem. Once set within the enemy's critical area the intervening force is in a position to call the tactical shots now that he can leverage the power of the defensive to his advantage.

Modern precision technology strengthens the inherent power of the defensive phase of an offensive-defensive stratagem. The range and lethality of our superior firepower weaponry expands the killing zone making it far more expensive for a less sophisticated enemy to move unprotected against us in the open. The static side has the advantage of watching and engaging with firepower from positions well out of the enemy's much shorter lethal reach while remaining relatively secure in fixed, covered positions. The enemy is trapped and can only escape by massing to attack. If he masses he becomes a perfect target for destruction by precision strike. Check and checkmate.

Our dominance in situational awareness given to us by our overwhelming advantage in information technology will help us solve the problems that DePuy and other American field commanders found most vexing in this new style of war. DePuy realized that a change in tactics alone could reduce casualties only to a limited degree. In Vietnam, no matter how small and protected he made his lead elements, the cost of the initial contact was still too high. Also, DePuy was frustrated by the ability of the enemy to escape before his supporting firepower became most effective. The enemy could slip away because ground forces could not be assembled quickly enough or spread thin enough to cover all avenues of escape particularly in the rugged wooded terrain in Vietnam.

The Army learned from its experiments with digitization at the National Training Center in 1997

that a properly internetted maneuver brigade provided with an immediately available suite of aerial sensors could expand its area of control by a factor of four or more. Superior situational awareness allowed units to locate all friendly units and most of the enemy immediately around them. The ability to see the battlefield with great clarity and immediacy allowed them to anticipate each enemy movement and avoid being surprised. Also, units participating in these force-on-force experiments discovered that the ability to spread out, yet still remain cohesive and able to maneuver, freely allowed them to outflank and surround much larger units in open combat.

Tactical:

If we have been successful at gaining positional advantage and paralyzing the enemy at the operational level then we must seek to finish the fight in close combat with the smallest possible loss of life. Once secure in operational sanctuaries, tactical units will expand outward to find the specific location of previously unlocated enemy ground units. These tactical scouts will be preceded by aerial eyes in the form of Unmanned Aerial Vehicles (UAVs) or other downlinked aerial sensors. These sensors must be capable enough to find small discrete pockets before the scouts stumble within the range of enemy direct fire weapons. The scouts' mission will be to define the outline of the enemy formation clearly and then locate and destroy all significant points of resistance without the finding force becoming decisively engaged or suffering casualties.

Seen from a point high above, the battlespace in a culminating campaign against a dispersed enemy might appear in the mind's eye like a distant prairie ablaze with a thousand fires. All of the individual fires would be surrounded simultaneously by groups of firefighters building fire lanes and pouring on flame retardant selectively in order to keep the smaller fires from combining to form larger conflagrations.

Most enemy points of resistance would be left to burn themselves out, particularly those in difficult areas such as close terrain, forests and cities. Those which threaten people or property would be fought aggressively, but from a distance. Firefighters would move in close enough to be effective but not so close as to be trapped by the flames.

Close combat of this sort will be decisive to be sure, but decisive from a distance. Close combat units will maintain just enough contact to surround, contain and feel out the shape and size of each enemy formation. As precision strikes begin to wear away the will of the enemy, close combat forces converge methodically with deliberation. By this stage of the fight time becomes our ally. The initiative belongs entirely to us. We can only lose now if impatience causes us to be careless and allows a desperate enemy to inflict more casualties than we can afford. Eventually, surrounded, unable to mass, out of touch with adjacent units and higher authority, each discrete enemy force slowly collapses.

Finding the Balance:

Our Cold War fixation on fighting the big battle has impeded the development of weapons appropriate for fighting limited liability wars just as surely as it has impeded our ability to internalize and accept limited war fighting doctrine. This has led to some curious ironies.

Recent experiences have taught us that the surest way to win limited wars is to win them quickly. Time is our greatest enemy and our enemy's greatest friend. Yet as our experience in Kosovo has shown, we still lack the means to transport decisive landpower to even a local theater of war in time to preempt or preclude the offensive actions of a minor tyrant.

We seek to win at minimum cost. During wars in this century the overwhelming majority of

battlefield deaths have been suffered by infantrymen in close combat. The greatest killer of American infantry has been the homely and unglamorous mortar, followed closely by the rifle and machine gun. Yet while today we possess the technology to remotely locate strategic targets in Belgrade or Baghdad, a platoon leader must still rely on DePuy's tactic of direct observation and contact in order to locate a machine gun position. We can strike strategic targets with precision from thousands of miles distance but our platoon leader has no way to destroy a mortar over the next hill with any degree of precision.

Recent post-Cold War experience in Kosovo and Iraq have shown that even an army of inept petty tyrants can, if given time, adapt and learn to counter our unique method of fighting limited wars. Add to this uncomfortable truth the realization that the American people will continue to demand cheap victories and it seems absolutely apparent to those who have studied recent history that the United States will no longer have the luxury to improvise on the battlefield. Fortunately, the recent history of limited wars offers more than just a warning. It offers us a historical trail of practical and empirical evidence which provides a path to guide us into an uncertain era. In sum the recent past seems to be telling us that:

- A battlefield dominated by precision fire favors the defensive. Therefore, the surest way to win at acceptable cost is to employ an operational offensive-tactical defensive strategy whereby the attacker uses superior mobility to place his forces amongst and between the enemy such that the enemy is forced to wither and concede or to attack in the most disadvantageous circumstances.
- Firepower intensive wars must be won quickly. Over time, the effects of firepower diminish. Therefore, decision on the battlefield must be achieved before the weight of munitions needed to achieve effects exceeds the practical limit of the force to deliver

them. However, the promise of a geometric increase in killing power for a given weight of munitions offered by cheap distributed precision weaponry will relieve us at last of the millstone of the ammunition train. Infantrymen will now be able to kill the enemy effectively in the close fight without suffering substantial loss in mobility.

- The enemy must be located precisely and fixed with the smallest possible exposure of the maneuver force. In the long term this finding function might well be performed remotely from air or ground vehicles.
- An adaptive enemy will most likely counter our superior precision strike capability by dispersing, hiding and going to ground. While such a posture limits his vulnerability to precision, it also makes his force extremely vulnerable for exploitation by maneuver forces capable of controlling his most vulnerable points from the ground.
- The object of close combat in the future will be to find and fix the enemy without closing to within decisive distance of the enemy's weapons. Decisive range is defined as the practical limit of the enemy maneuver unit's organic weapons.
- Maneuver forces must be provided the tools to adequately support an offensive strategy that is dominated by precision firepower. We can kill very deep targets with great precision, principally from the air. Likewise, combat units can kill with precision very close using direct fire from guided anti-tank missiles. But the firer is exposed and vulnerable during this direct exchange. We lack the ability to kill with precision in the zone between these two extremes—just where this new style of warfare needs precision most—close enough to find, fix and track directly without being so close as to become

vulnerable to the enemy's direct fire systems.

A Cautionary Conclusion:

DePuy's doctrinal method is best suited for wars of limited liability which clearly occupy only a narrow segment of our potential future conflict spectrum. Surely, for the near term at least, America's soldiers will find themselves most involved in non-shooting peacetime contingencies. True, but we already have shown that we can do presence, peacekeeping and peace enforcement missions well as demonstrated by the performance of American soldiers in Bosnia, Kosovo, Haiti and elsewhere. We can do better to be sure. But our past performance tells us that our doctrine for stability operations today is fundamentally sound. Improvement is always needed but the imperative for changing the way we conduct these kinds of operations is not pressing. Our most serious doctrinal challenge starts when bullets begin to fly. Recent history tells us that limited wars are what we do most often with least success. These kinds of wars need the most attention to insure that we will be able to win them at the least possible cost in the future.

A second caution deals with the perception that Americans are no longer willing to expend blood in foreign adventures. The day may well come soon when a serious competitor threatens an interest vital enough to allow a serious sacrifice in blood. However, while the American people may someday allow military professionals to spend lives more freely, they will never again allow soldiers' lives to be wasted. So even in a major war we will continue to shoulder the obligation to fight and win at minimum cost.

Our experience in recent war tells us that regardless of how intense the combat, cheap victories will come only if we change our warfighting doctrine to accommodate the new realities of the precision age. Modern weapons

technologies have changed the dynamics of battle. The relationship between the dynamics of firepower and maneuver has shifted fundamentally. We must begin now to alter the way we

fight in order to stay ahead of potential enemies who, as we have seen in Kosovo, already have begun to understand and exploit our tendency to rely on firepower alone to win on the battlefield.

SUGGESTED READING LIST

We are not the first Army to face the challenges of transforming our warfighting doctrine to meet societal, geo-strategic and technological change. Students at the Army War College use the following publications to gain insights into the process of change with an emphasis on the period between the two World Wars. A few other works pertinent to military transformation are also listed.

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