



Lessons from the Past: Making the Army's Doctrine "Right Enough" Today

by

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Introduction

No doctrine is perfect, but getting it "right enough" is strategically important. Dire consequences followed for France in the spring of 1940 because heavy investments in its high-tech Maginot Line failed against the German Blitzkrieg. French doctrine was based on flawed post-World War I interpretations of technological change and its impact on the nature of war. We also have learned from recent events in Afghanistan and Iraq that operating without applicable doctrine can have strategic consequences, and that the intuition of senior generals is of little value in the councils of state today. The quickly submerged November 2002 public dispute between Army Chief of Staff General Eric Shinseki and Deputy Secretary of Defense Paul Wolfowitz about the number of Soldiers required for the coming invasion of Iraq is often recalled to vilify the civilian side, but *no one can claim that the resulting campaign violated accepted joint or Army doctrinal precepts.* In fact, the campaigns in Afghanistan and Iraq were conducted according to widely supported emerging concepts within the Department of Defense (DoD). We should take little comfort that events are proving the former Army Chief more right than wrong. Politicians are more likely to respect the intuition of senior Army leaders when they render judgments backed by a sound body of doctrine, especially one that is also respected and supported by the other services.

The lessons from the Army's struggle to get the doctrine "right enough" after Vietnam are worth heeding as the present generation carries out the current revision of the service's capstone operational doctrine. Because there are important parallels between the current period of military reform and the one just previous that began in 1973, ending with the collapse of the Soviet Union, the lessons are relevant and numerous.

Achieving a "right enough" result took 13 years, and two Army Field Manual (FM) 100-5, *Operations*, revisions—published in 1976 and 1982—were short of the mark; the 1986 manual

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was the third evolution. In 1993, the Desert Storm Study Project, described in *Certain Victory: The U.S. Army in the Gulf War*, had this to say about the product of this last effort:

History all too often reinforces the familiar maxim that armies tend to fight the next war as they did the last. However, the Gulf War proved to be a dramatic exception. AirLand Battle, the warfighting doctrine applied by the American Army in Desert Storm, not only survived the initial clash of arms but, in fact, continues as a viable foundation for the development of future warfighting doctrine. The durability of the AirLand Battle concept is owed to three factors. First, unlike past instructions for the conduct of war, the 1986 version of AirLand Battle was a vision of what was possible rather than an owner's manual for the equipment and force structures available at the time. In fact, if the 1986 edition of FM 100-5 possessed a fault, it was that some concepts were so far ahead of capabilities that many balked at their full implementation with the tools then at hand. Second, the conditions of combat and the dynamics of Desert Storm battlefields proved to be modeled with remarkable fidelity to FM 100-5. Third, and perhaps most notable, is that AirLand Battle represented a way of thinking about war and a mental conditioning rather than a rigid set of rules and lists to be done in lock-step fashion. Its four tenets, *initiative, agility, depth* and *synchronization*, are timeless, immutable precepts for present and future wars.¹

In retrospect, they were too generous. The world had already changed, and that, too, is a lesson. While AirLand Battle doctrine was found suitable for General Norman Schwarzkopf's restoration of Kuwait's territorial sovereignty, General Maxwell Thurman's Operation Just Cause planners in Southern Command needed to address a host of considerations beyond this doctrine. Our criticisms could, however, be tempered by recognizing how well it addressed the one central strategic problem of the day—to contain the immense, dangerous and potentially aggressive military power of the Soviet Union and its allies worldwide. At the time, all other threats to national security paled in comparison. AirLand Battle doctrine was properly optimized for this unique set of problems, providing sound guidance and useful precepts for fighting a "counter-aggression" campaign in response to the invasion of an ally. It not only took into account a specific and very powerful enemy, but it also hypothesized that the host nation would tend to many very specific and very messy details that could be ignored by U.S. forces when the strategic aim is the restoration of territory and not "regime change."

Since the Desert Storm Project authors penned the words above, there have been two revisions, and a renumbering, of the 1986 manual—the former FM 100-5 is now FM 3.0, following the numbering system of Joint Publications. Both were written before the 11 September 2001 terrorist attacks on the U.S. homeland. Thus, like the 1976 manual, the chief influence was the rapid advance of technology because the new strategic realities we face were less apparent at the time.² One of the biggest challenges of the earlier period was framing the strategic and operational problem well enough to produce a useful doctrine; that continues to be the principal challenge today.

The Army of the early 1970s needed to address new and serious realities very quickly because Soviet forces had modernized and presented a formidable threat while most of the Army's institutional attention was focused on the effort in Vietnam. To face that threat, the Army changed its orientation completely and, at the same time, reorganized from a large conscription-based force into a smaller, more effective, professional all-volunteer Army. It also needed to revise an outdated doctrine, and do it quickly.

The challenges facing the U.S. Army today are even greater, but similar. Besides being deployed and at war for several years in situations and against adversaries for which it has had little useful

doctrine, and facing novel conditions daily in Iraq, Afghanistan and other places less familiar, the Army is going through revolutionary changes. Not only is it reorganizing into a more modular force, but it is also radically reorganizing from a force that primarily mobilizes to meet sudden large strategic emergencies to one that meets steady-state strategic demands constantly. To meet such demands it readies, deploys and regenerates its brigades in three-year life cycles. It has become an expeditionary, rather than forward-based, Army. To provide the intellectual underpinning for current reforms, the Army is in the process of revising its capstone operational doctrine.

Doctrinal revisions since the 1991 Gulf War were heavily influenced by Army experiments in the power of digital communications and command and control systems and by the so-called “Revolution in Military Affairs” (RMA). The RMA captured the imagination of DoD officials and the public. During the 1990s, the RMA decade, the more technical services provided the intellectually attractive ideas that began to shape joint doctrine and concepts. From this enthusiasm over information technology-based weaponry, surveillance systems, networks and high-speed computers emerged a number of “bumper sticker” concepts that appealed to important audiences outside the services—“Shock and Awe,” “Global Reach—Global Power,” “Operational Maneuver from the Sea,” “Rapid Decisive Operations,” “Network Centric Warfare” and “Effects-Based Operations.”³ These ideas were attractive because they suggested that far fewer people would be needed, especially in the ground forces, and that such savings would pay for the required technological investments.

The Army, for many complex reasons, did not challenge the intellectual flaws in the group-think of the time,⁴ even though active duty officers spoke out in print.⁵ Instead it put forward a technical solution that fit into the prevailing logic: first, shrink the tonnage of its heavy armored and mechanized divisions by reducing the combat platoon by one-fifth and replacing those Soldiers with “digitization,” then form medium-weight motorized brigades that could be transported to trouble spots by air more quickly within current airlift constraints. However, these efforts failed to change the essential flow of procurement funding over two administrations and eight congressional sessions. Moreover, until recently the doctrines of the Army and the advice of its leaders were heavily criticized by many in the civilian leadership of the Department of Defense for being behind the times and slow to respond to new opportunities. Even into the summer of 2003, many defense intellectuals advised reductions of up to two Army divisions to afford technical transformation, believing that the course of events in Kosovo, Afghanistan and Iraq had vindicated RMA-based concepts.

Another similarity between the period of the transition from fighting in Vietnam to facing down the Soviet threat and the present one is the need to address new realities head-on. An important weakness of the early post-Vietnam doctrine was an incomplete framing of the problems the doctrine needed to address. Until 2002, the Army and the other services relied primarily on scenarios that were a mere down-scaling of the principal strategic problem of the Cold War for their investigations of future concepts and requirements.⁶ Countering the invasion of an ally by a regional power, as in 1991 when the Iraqi Army was expelled from Kuwait, would be the likely future scenario against North Korean aggression. These familiar paradigms left to the host sovereign the problems of public support, rear-area protection against unconventional threats, maintaining security and control of the population, humanitarian assistance, reconstruction planning and other messy complications. These were issues Cold War doctrine did not need to address. Changing regimes, enforcing peace and warring with angry and implacable transnational political movements introduce a host of new problems. Not only has the nature of major combat operations changed

significantly, but the insurgencies of the Cold War were very simple compared to those the U.S. Army is now facing. It is now time for the same kind of “full-court press” to counteract it. An important part of this effort should be recognizing what is different, what is new and how to create and express useful doctrine.

This essay has two purposes. The first is to offer lessons about *how* the U.S. Army arrived at a doctrine that was “right enough” for the closing decade of the Cold War. The second is to share insights of what “right enough” doctrine might be, and what it might be about.

Toward Active Defense

The so-called Active Defense doctrine emerged between 1973 and 1976.⁷ It refocused the Army from Vietnam to the Central Front of Europe, emphasized the “First Battle” against Soviet aggression, highlighted the new “battle calculus” founded on experiences during the Yom Kippur War and described the optimum tactical employment of new weapons in the defense. Tactical commanders were to simultaneously control the current defense, the preparation of the next defense and the planning of the third. The doctrine concentrated narrowly on what was new and topical at the time—the first defensive battle against the Soviet Army in the Fulda Gap.

As “Vietnamization” got underway and the Army refocused on the nation’s direct confrontation with the Soviet Union and its allies in Europe and Korea, the 1973 Yom Kippur War demonstrated the power of new, lethal and accurate weapons. Simulation-based studies proved many of the 1973 wartime observations about the new physics. They concluded, “What can be seen can be hit. What can be hit can be killed,” and this became the Army’s bumper sticker of the time. New technologies made the line-of-sight battle far more deadly, and far more complicated. This tactical problem had strategic implications; America could not afford a brittle defense, the early failure of which could precipitate rapid escalation to nuclear war, and proficiency on that battlefield demanded serious attention to the new physics.

This new doctrine was centrally conceived and written by “the boathouse gang”⁸—a small group of bright officers convened at Fort Monroe, Virginia—and with minimal consultation with the field, it was published in 1976. It was creative and radical, but the Army was not prepared to receive its teachings.

Students at Fort Leavenworth, Kansas, many of them former company commanders in combat, generally accepted the new doctrine’s strengths in the world of tactical actions. It taught rigorous thinking about important conventional warfare issues that had been neglected during the Vietnam years. But the Army’s Vietnam veterans also recognized that what may work in a world of Lanchestrian equations⁹ might not work in real life against real enemies. Internal critics felt the new doctrine was too mechanistic, paid too little attention to the human or “moral” dimension of combat, and ignored the potential impacts of not only electronic warfare but also chemical, biological and nuclear weapons. Some deplored the deletion of the traditional principles of war.¹⁰ Others called attention to the important conceptual terrain neglected since World War II—the art of campaigning or, as the Soviets then called it, “operational art.”

Young officers of the time also voiced their misgivings in *ARMY*, *Military Review* and *Parameters* magazines. In what developed into a healthy exchange, they saw defensive tactics as a “fall-back by ranks” approach that confused delay and defense, and would lead commanders to avoid decisive engagement. They saw the Active Defense as complex and requiring “zero defects” execution by naturally imperfect Soldiers and commanders under unnaturally stressful conditions.

They saw it as reactive, surrendering the initiative and resulting in a risky method of defense. The writers also took the Army to task for training exercises that were stylistic and unimaginative applications of “doctrinally approved” methods. Of these, Wayne Downing and Barry R. McCaffrey later became prominent general officers, and Richard H. Sinnreich became a director of the School of Military Studies and a division chief of staff; he continues to offer wise comment in print.

Between 1976 and 1980, outside critics such as William S. Lind, Edward N. Luttwak, Steven L. Canby, Paul Bracken, John Boyd, Jeffrey Record and others took the Army to task for a number of sins. They argued the Army placed too much value on lethal technology and too little on maneuver and cunning, preferring “attrition warfare” consisting of direct, stereotyped frontal engagements oriented against enemy strength and tailored to whittle the enemy down to size by destroying his fighting men and machines. They saw Army officers as hidebound bureaucrats cultivating managerial skills over leadership, being wedded to archaic methods, ignoring the study of military history and theory and favoring safer technology over innovative military art. They said the Army compensated for lack of imagination with sophisticated materiel and a tendency to treat military challenges as if they were simple engineering problems.

The best and handiest treatment of the issues of that time is a 1981 collection of essays in *The Defense Reform Debate: Issues and Analysis*, edited by Asa A. Clark, Peter W. Chiarelli, Jeffrey S. McKittrick and James W. Reed of the U.S. Military Academy Department of Social Sciences. It includes an essay I wrote, as the Army’s institutional spokesman in the debate. It rejects the false dichotomies of the most extreme “reformers” and summarizes the key concepts that would form the basis of the AirLand Battle doctrine. (Because this essay was written as we were writing the first version of AirLand Battle doctrine, it reflects how we had reframed the problem early in the process.)

In truth, General William DePuy’s leading these early intellectual efforts and overseeing the production of the 1976 version of FM 100-5 are given far too little credit today. While it is true that the 1976 revision stirred debate and controversy, it also got the Army’s attention and shifted its focus to concrete new developments. The physics of the battlefield were as much misunderstood during the early 1970s as counterinsurgency warfare was in the immediate wake of the events of 11 September 2001. The Army *did* require a doctrinal wake-up call, and the Active Defense doctrine was the first—and crucial—step of what turned out to be a three-step reform. The genius of DePuy was to recognize that if the Army failed to get the tactics of the “First Battle” right, then all else was secondary. As a result, the officer corps became intimately aware of tactical details it had ignored for many years. The 1976 version also provoked rigorous thinking about those details and other matters not yet addressed by it.

In the end, DePuy’s manual prompted the next revision. With a firm foundation in the new physics, the profession could turn to other new complexities, such as how to maintain unit cohesion and unity of purpose on a very stressful and messy battlefield, and how to prolong the strategic defense, and even win, in the shadow of nuclear release.

Reframing the Problem . . . Again

In late 1979, Army Chief of Staff General Edward C. Meyer directed the U.S. Army Training and Doctrine Command (TRADOC) commander to develop a revised version of FM 100-5. Meyer, a youthful and energetic reformer, had been the Deputy Chief of Staff for Operations prior to his selection over many more senior officers to be the Chief of Staff, and he was sensitive to the

unrest within the Army and the criticism from the outside. The memorandum directing the revision raised many of the concerns previously stated. This action, the first of several reforms launched by Meyer, initiated the second stage of the post-Vietnam transformation, but it took until 1982 to write it and get it to the field.

The thinking of several senior officers deeply influenced the substance of the next revision. General Donn Starry had been deeply involved in the 1976 version of the doctrine with DePuy, and thereafter had commanded the U.S. V Corps in the Fulda Gap in Germany. These experiences led him not only to think about the crucial technical and tactical aspects of the defense of Western Europe but also to consider what our German allies and the Soviets were referring to as the “Operational Level of War.” He also thought deeply about the full implications of the style and substance of Soviet doctrine.

General Robert Shoemaker, while commander of III Corps and later of Forces Command, was simultaneously wondering out loud about the implications of what he called the “dirty battlefield.” He was referring to the very complicated impacts of electronic warfare on command and control and the messy consequences of chemical, biological and nuclear weapons on maneuvering brigades, divisions and corps. At the same time, Lieutenant General (later General) Richard Cavazos, an officer who had read voraciously about World War II combat on the Russian front, was teaching his subordinates at III Corps (as he had previously at the 9th Infantry Division) to think deeply about the “moral,” or human, dimension of the kind of warfare they would encounter. From his experience as a company-grade officer in the Korean War and as a battalion commander in some bitter fighting in Vietnam, he drew numerous lessons about the physical dimensions of defense but emphasized the even greater importance of human psychology and sound leadership in tough fighting. Lieutenant General William R. Richardson, the U.S. Army Command and General Staff College (CGSC) commandant from late 1979 to 1982 and an officer with a very disciplined intellect, shared and understood these views as well.

When General Starry became the new TRADOC commander, he made some immediate changes in the way the revision would be done. Like his predecessor, General DePuy, he would stay personally involved, but he would place the actual responsibility on the CGSC faculty, and specifically in the Department of Tactics. During the Active Defense revision, the CGSC, then led by Lieutenant General John Cushman, offered a revised version of the 1968 manual. DePuy thought the manual had carried forward outdated thinking that did not reflect the new realities of warfare. While the “boathouse gang” approach had facilitated the change in direction he wanted, it alienated the CGSC faculty. When the new doctrine was presented to the CGSC class of 1976, of which I was a member, the faculty was struggling with the new concepts themselves.

The two officers who would become the actual authors—then-Major(P) Leonard D. “Don” Holder¹¹ and I—were hand-picked by the commandant, Lieutenant General Richardson, and brought to Fort Leavenworth. I can only guess why we were selected, but it was the beginning of both a humbling and mind-expanding experience. Neither of us volunteered; senior officers who knew us made recommendations to Richardson for several reasons. In retrospect, the job required officers who were self-confident professionals and open-minded critical thinkers with an imagination, a standard I strove for and Holder achieved easily. We had strong combat records, were proven writers, had advanced degrees from Ivy League schools and had served on the West Point faculty in the Departments of History and Social Sciences. We both had just come from

three and four years with troops, and there were probably some details in our backgrounds that mattered, if not in our selection, then in the mental orientation we brought to the task.¹² Most important, we had both spent much time thinking about the problem that then suddenly became our task to help solve.

Starry and Richardson were wise to guide our preparatory reading and study. In retrospect, raising my perspective from that of a recent battalion commander and division deputy G-3 (operations officer) to that required of the principal scribe for the revision before we commenced serious writing was imperative. This preparatory study included the best examples of previous U.S., German and Soviet doctrine, as well as writings on military theory and history, e.g., the 1940 U.S. Army FM 100-5, the recent revision of the German FM 100/100 *Truppen Führung* (Leadership of Troops), translations of Soviet General Reznichenko's *Taktika* (Tactics)¹³ and Soviet Colonel Siderenko's *The Offensive*,¹⁴ as well as the current literature of internal and external critics, and the writings they often referenced. One of the books that was most helpful in raising my perspective from the tactical to the operational level was Russell Weigley's *Eisenhower's Lieutenants*, which provided a broad perspective on what campaigning is.¹⁵ To learn how high-level commanders thought, I read the personal accounts of noted "operational artists" such as George S. Patton, Eric von Manstein and Sir William Slim.

The crucial breakthrough for our preparation was when we began to grasp the real problem allied forces faced against the Soviet threat in Europe. Reading the Soviet authors helped, as did the histories of the battles and campaigns from which Soviet authors drew their inspiration (e.g., the Battle of Kursk and the Manchurian Campaign). We gradually realized that thinking primarily in terms of winning successive line-of-sight engagements, as the 1976 doctrine emphasized, was a sure path to failure for reasons more profound than the several the critics had outlined. U.S. forces would have to be flexible and robust enough to endure certain penetration and comprehensive and systemic disruption by a combination of specialized mechanized formations designed to penetrate on narrow fronts and large numbers of unconventional, highly trained special forces infiltrating to great depths. Dealing with this challenge comprised what later came to be known as the "rear battle."

The problem of the "close battle" was recognized by the 1976 doctrine, but the remedy of engaging the enemy at arm's length and from successive defensive positions was too predictable and psychologically disabling, and it would require the infusion of preplanned counterattacks at various levels, the acceptance of open flanks and much greater nonlinearity across the forward edge of the battle area. The greater challenge, however, was to coordinate the close *and* rear battles with a systematic attack of the Soviet formations in depth. This was intended to attack not only their ability to mass and generate overwhelming artillery and rocket fires, but also their ability to regulate the flow of successive echelons into gaps found or created by penetrating and close battle forces before defending forces could react laterally. The reach of Army weapons was insufficient for this, and the Air Force, under a joint and combined command, would have to carry out what would become known as the "deep fight." However, there was no such doctrine in place.

Finally, if these were not challenges enough, allied forces would have to fight in the shadow of nuclear release. What this meant was that whatever doctrine was developed, it would have to work both in the period before selective release of nuclear weapons by either side and during all the subsequent stages until conflict resolution. We had seen a study of what might happen to an

Active Defense model in simulations during selective release of even small and widely scattered nuclear weapons, but it proved to be far too brittle, and the predictable pattern of successive rearward movement invited disruption. Whatever doctrine was developed needed to address this combination of challenges *simultaneously*.

Dealing with this combination of challenges led to a number of doctrinal innovations. The logic for the “Close, Deep and Rear” organizing framework prompted leaders at all levels to frame solutions to address these challenges simultaneously. The Army’s adoption of the “mission orders” command philosophy in the face of a very centralized command and control culture was not just a new paradigm, it was essential to survival and robust performance in this environment. The doctrine also addressed important issues in the psychological/leadership dimension, raising the level of focus to division-level tactical maneuver, and leading to a more systemic approach to thinking about combined-arms operations and the integration of other service support. Finally, this manual broke with Army doctrinal tradition not only by differentiating between the tactical and strategic perspectives but by adding a third between them—the perspective of major operations and campaigns. This was called the “operational level of war.”

Little consensus had developed within the Army leadership on just what differentiated the operational level of war from those below and above it, and it was wise not to impose immature ideas too soon. In 1981 there were those who saw the operational level of war simply as long-range firepower employed intelligently to reduce the size and coherence of second-echelon Warsaw Pact forces. Holder and I now saw it as much more than that. We felt the doctrine also needed to address operational-level maneuver, which the Army had virtually abandoned thinking about after the atom bombs exploded at Hiroshima and Nagasaki. (In Europe and Korea, field exercise scenarios rarely ventured beyond selective release, thus there was no need to maneuver large formations in training. The brief experience of the Inchon maneuver in the Korean War was treated more as an aberration and a return to World War II thinking and conditions than as an enduring characteristic of modern war.) We felt that the doctrine needed to assume the possibility that both sides might delay nuclear release long enough for large-scale maneuver to play a role before conflict termination, and that the doctrine needed to address how to do it. However, we saw that the introduction needed to be accomplished in two stages. Not only was there a competition over what operational art comprised, but the institution needed more time to explore how to think and talk about operational art. The 1982 manual spoke of tactics as engagements and battles, of major operations and campaigns comprising the operational level of war, and it addressed how the latter were executed using long-range fires in depth, delivered by missiles and aircraft complemented by large-scale maneuver.

It was clear to Holder and me from the beginning, in July 1980, that the 1976 text could not be used as a foundation. The work required a complete rewrite and reorganization. We took the initiative in suggesting approaches, vetted these within an informal network among the faculty and then sought approval of the leadership above us. (Upward communications were facilitated because, as lead author, I did not need to gain approval sequentially up the chain to General Starry. The leaders in the chain would periodically get together and hear from the authors at the same time, saving the time required to accommodate each leader up the chain in turn. These were also very rich discussions of substance.)

Once the writing commenced, Starry and Richardson read and commented on every draft chapter as it was completed (starting with the early rough ones), as though they were part of the

writing team. With every rewrite they allowed us broad discretion to harmonize their inputs with those of others. In fact, the intellectual discourse among the authors, the generals, the faculty and others was open and direct, on the merit of ideas rather than rank. This process involved several cycles of writing, discourse and rewriting. Starry and Richardson must have read every chapter four times between autumn 1980 and late summer 1981.

The revision was widely circulated in several drafts before it was published in 1982. College faculty was included in the important doctrinal discourse, both informally and formally. The teachers of tactics at Leavenworth were particularly involved in the rearticulation of the nine principles of war, the evolution of which became “imperatives” or broad precepts for contemporary warfare, and the principles of offense and defense. The principal outside critics, William Lind, John Boyd and Edward Luttwak, were invited to comment on drafts and held private discussions with the authors.

It is at this point that I learned that you cannot begin a doctrinal revision with a general direction-setting vision statement or operating concept. You have to attend to the logic of the details first—*what* has to be done and *why*. It has to emerge from a struggle with the logic of the particulars, and it emerges from the process of writing about the subjects the doctrine needs to address, as in any creative process. At the point when we were satisfied that the major body of the work was nearly complete, Starry and Richardson contracted several respected retired general officers to take a week out of their lives to read the work, stand back and identify the major themes running through it, and propose revisions. (This is not the same as asking people to read and comment in their spare time, which many will do; you really need focus and undivided attention to get the product you need.) We authors had been so immersed in the details that we could not see the themes running through the work, but when we heard and read the synthesis of this group, we recognized the themes as well. Their input provided the basis for a new second chapter containing the tenets of AirLand Battle—their recommendation was Initiative, Depth, Violence and Integration. After consultation between the authors, Richardson and Starry, these became Initiative, Depth, Agility and Synchronization. It was only then that we were able to synthesize the whole and write the words of the essential operating concept.

The generals also arranged a review by a former high-ranking Warsaw Pact officer and war planner who had recently defected. I traveled to Washington and met clandestinely with this officer and his handlers for several days, going over the principal chapters for his reaction. He was favorably impressed; he thought the problem had been properly framed at the operational level. We discussed some finer points of Soviet doctrine that had been misunderstood, and he made several suggestions.

The resulting manual was very innovative and much more theoretical than its predecessor in very subtle ways. The title, *AirLand Battle*, was chosen to emphasize that neither defensive nor offensive maneuver was possible in contemporary warfare without a close integration of air and ground forces. (In fact, the notion of “landpower” is not addressed in either this or the later 1986 manual. It seemed an outdated idea at the levels that mattered. Why the term has resurfaced in doctrine must be questioned.) It urged commanders to look beyond the range of their weapons and picture the enemy in organizational wholes, within the context of higher commands and support, arrayed on the terrain and postured to perform missions.

To the foundational understanding of the physical dimension of modern war, this manual added the enduring complexities of the human dimension—the effects of fear, fatigue, fog, friction and

leadership. It synthesized the tradition of decentralized command from the American mounted forces of World War II with the more developed theory of “Mission Orders Command” borrowed from German doctrine. The battlefield framework may have been a spatial one of close, deep and rear areas, but the conceptual emphasis was on the synergy of organizational functions taking place in those areas during performance of the mission, in a contest with an opposing force also performing such functions. The manual not only described offensive and defensive tactical methods but added short, clear discussions of the enduring theory and principles underlying the current method. (Longer, more educational discussions hit the “cutting room floor” as 50-page chapters were pared back to no more than 25 pages.)

The new field manual specifically addressed tactical methods in an environment where electronic, chemical and biological warfare would be normal, and in which use of nuclear weapons could be initiated by the enemy at any time. In one holistic embrace, this manual outlined the physical, moral and intellectual logic of modern engagements, battles, major operations and campaigns, but it raised the focus of the doctrine from fighting engagements and battles to the conduct of major operations and campaigns. It introduced some of the fundamental ideas of operational art—although we resisted expounding on a new topic before a consensus and clear enough understanding of it had emerged. This proved to be fortuitous, because it prevented operational art from becoming only the art of deep fires. Starry predicted that it would take a decade for the Army to absorb this more conceptual or theoretical substructure, and he was right.

Largely because of the openness of the process, field acceptance was positive, even though some mechanistic habits of thought cultivated by followers of the Active Defense died hard. However, it appeared that some aspects of the doctrine were misunderstood in the field. For instance, although a balanced treatment was intended, some interpreted the doctrine as a shift from defense to offense.

Consequently, those of us engaged in writing the manual anticipated the need for what became the 1986 revision even before the 1982 manual was published. By 1984 the new commandant, Lieutenant General Carl Vuono, and General Richardson, now TRADOC commander, were persuaded to order a refinement of the 1982 version to clarify misunderstandings, and to build up the content on the operational level of war. They moved responsibility from the Department of Tactics to the new School of Advanced Military Studies (SAMS) which, coincidentally, I then led, and for which Holder returned as a “fellow” in lieu of attending the War College after completing cavalry squadron command. Holder became the lead author of the revision. Familiarity with the background of the content of the previous version was very helpful, as was the two-year break spent in the field. In addition, the process of creating and teaching a new “master’s degree-level” course consisting of classical military theory, advanced tactics and operations, campaign studies, counterinsurgency theory and “preparing for war” to selected bright and motivated majors prepared the SAMS faculty to raise the intellectual content of the revision to the next level. Continuity was also extended through Richardson, and a new team perspective came from the new commandant, the deputy commandant (Major General Dave Palmer) and the new faculty members at SAMS and in the college (most notably my new deputy at SAMS, Colonel Richard H. Sinnreich).

This version took less time to complete, even though two drafts were circulated widely. The collegiality of content discussions between general officers and authors was maintained in the drafting process. Holder completed the first draft by May 1985, and became an armored division

G-3. At that point, I turned over the SAMS directorship to Sinnreich and focused completely on the second draft before assuming brigade command in November 1985. Sinnreich, who had worked closely with Holder and me for the previous year, polished the final draft, and the manual was published by mid-1986.

The Context of These Reforms

The decade after the Vietnam War was a rare period for the U.S. Army when the pursuit of ideas was as serious and intense as the pursuit of technological solutions. Four brilliant men in succession commanded the Training and Doctrine Command: Generals DePuy, Starry, Glenn K. Otis, and Richardson. They, and the Chiefs of Staff they served, shared a vision about Army doctrine, training and officer education. They also shared the commitment to make appropriate changes and revisions. As a result, they changed the culture of the Army very dramatically in several important ways.

The depth, breadth and substance of the doctrine, and the understanding of it, had reached levels never before attained. A comparison of the 1986 FM 100-5 text and the recently-updated Joint Publication 3.0, *Joint Operations*¹⁶—the joint doctrine for the operational level of war—would reveal a striking similarity; this underscored the acceptance of AirLand Battle in the joint world, as well as in the Army. The logic of AirLand Battle also became the logic not only of joint doctrine but also of the “Reagan Buildup.” It impressed our adversaries and contributed in no small way to the end of the Cold War and the collapse of the Soviet Union.

Ground-breaking advances in training followed suit, several of which were significant cultural changes. The Combat Training Centers evolved, beginning with the National Training Center at Fort Irwin, California, and culminating with the Battle Command Training Program at Fort Leavenworth in the late 1980s. Even before the establishment of the Combat Training Centers, military training transitioned from emphasizing the process to analyzing outcomes, and training doctrine was based on criterion-referenced training principles. This approach helped focus the drive for excellence in technical and tactical performance under the new conditions. Whatever Soldiers and units needed to be able to do was soon delineated in terms of tasks, conditions and standards. Gone were the age-old and vague training evaluation check lists. Performance could now be rated on a “go” and “no go” basis, which was revolutionary. The Army also abandoned scripted command-post exercises designed to exercise communications and staff procedures. Instead, the Army adopted simulation-driven exercises. Now, suddenly, colonels and generals had to make decisions that mattered; the enemy now had a vote in mock battle outcomes; and scarce resources had to be combined effectively to avoid embarrassment. This interaction forced leaders to exercise their military artistry and tested their understanding of doctrine.

Before this decade, all unit-level tactical training involved “umpires” with adjudication rule-books and subjective professional judgment. After this decade, trainers could simulate most of the physical phenomena of the line-of-sight battle, and many of the indirect-fire effects, even at home station. At the National Training Center it was possible to diagnose battalion-level battles to individual Soldier and platform detail. The rigor of training rose to all-time heights. Today we take facilitated after-action reviews (AARs) for granted. Before AARs as we now know them, training-event critiques focused on staff processes and avoided the sensitive issues of command decisions. Commanders have learned to participate in frank discussions of what happened and why. In fact, mission failures became an opportunity to learn. Altogether this was a significant change in the Army’s culture.

In the 1980s the Army also took other important steps to improve the understanding and practice of military art and science. The Combat Studies Institute and the Center for Army History changed from emphasizing institutional history to the history of warfare and operations; the Center for Army Lessons Learned was established to quickly share good ideas from the field with the institution and back to the field; the predecessor of the Foreign Military Studies Office was established to examine the thinking of our adversaries and allies; the TRADOC Analysis Center (TRAC) was organized and began using more advanced and varied analytical methods; the Army established a relationship with the Arroyo Center, an agency of the Air Force-sponsored “think tank” the Rand Corporation; and the Army Research Institute became more heavily engaged in examining questions of human performance in combat and organizational design.

However, more important than all of these innovations together, the Army’s attitude toward military education changed significantly during this time. Officer education advanced in breadth by having all officers attend a 12-week Combined Arms and Services Staff School (CAS3) and by instituting the study of the theory underlying Army doctrine at the School of Advanced Military Studies. Prior to this decade the majority of Army officers received no formal military education after their fourth or fifth year of service, and near-peer functional “experts” lectured from podiums to large student groups. As the years passed, more learning took place over coffee or beer as students shared experiences. Not only were all captains introduced to CAS3 by the end of that decade, they were also taught a uniform combined-arms doctrine in small groups by lieutenant colonels, often former battalion commanders with broad experience. The CGSC offered an optional master’s degree in Military Art and Science, and SAMS produced up to 48 graduates a year with a rigorous master’s degree in Tactics, Operational Art and Strategy.

Incidentally, the birth of SAMS in the summer of 1983 was directly related to my experiences as a scribe for Generals Starry and Richardson during the writing of the 1982 manual. I felt totally inadequate to the task set before me in the summer of 1980, and as I began collecting the Army’s comments on the first circulation of the coordinating draft, I began to realize how difficult it was for many Army officers of the time to provide useful criticism of new ideas—although there were exceptions. Many wanted *what* to think—they were looking for formulas to apply—not *how* to think. The early SAMS was not a school for planners, as some now think of it; it was meant to fill a void. There was something missing in my early education, and in that of my many peers upon whom the Army was relying to evolve its doctrine and keep it useful. The Army needed to educate its officers not only in current doctrinal methods but also in its underlying logic, how to know whether doctrine needs revision and how to provide a useful critique of new ideas. The purpose that fueled my passion to see it into existence was to seed the Army with senior officers who would be *useful change agents*. (Later I saw many SAMS graduates rise to the senior ranks of the Army.) Even though we were then focused on the conventional face-off with the Warsaw Pact, this course covered the practice and theory of what is now called “irregular warfare” much more rigorously than the subject had been covered in CGSC throughout the Vietnam War. These graduates “infected” all the divisions and corps staffs of the Army with a deep understanding not only of what the doctrine was at the time but why it was so. In addition, professional reading lists proliferated, and division commanders led study sessions with subordinates that were both intellectually challenging and professionally developing experiences.

All in all, it was an exciting decade in every aspect of doctrine, training and leader development—but no more so than the past decade has been in adapting to the information age, a

variety of new missions, new organizations and innovations in leader development, all while the Army has been at war. The time for doctrinal innovation has only just begun—an initial draft of the new FM 3.0, *Full-Spectrum Operations*, was published in June 2006.

Lessons for Today

This story of the AirLand Battle doctrine, and having experienced it personally, suggests a number of lessons. I could not have written this essay in the 1980s, not only because of the press of time and the need to face the next professional challenge, but because then I did not have the perspective I enjoy now. The privilege of retirement is to be able to choose how you spend your time. That, and the various opportunities the Army has offered me over the past 13 years to remain involved in the evolution of its thinking, have combined to produce the thoughts below.

Sound and useful doctrine is anything but doctrinaire. At the core of any adaptable doctrine are a number of enduring ideas. Historically, armies that have evolved have successfully adapted doctrine, organization, weapons and equipment as the opponents, technology, conditions and strategic missions change. Of course, when these all change rapidly and simultaneously, the business of evolving useful doctrine is greatly complicated.

A doctrine is actually a sum total of the thought models that commanders in the field, their staffs and their subordinates share. Thought models are mental frameworks or ways of thinking to solve problems. In the military profession they address, for instance, how to combine arms or capabilities to gain concentrations of effort and synergy, or how successful defenses or offenses are composed. Such abstractions are the enduring foundation underlying successful methods, and they become the basis for the evolution of new ones. To produce useful and yet simple abstractions, we naturally reduce mental frameworks to bare essentials, stripping away irrelevant ideas, but the profession must remain vigilant because changes may elevate the importance of former irrelevancies to prominence. Experts learn thought models through experience and education and apply them intuitively. Sound doctrine records, propagates and renews those most useful.

Wise commanders respect their foes by recognizing that enemy leaders are also thinking and adapting. Nothing is more interactively complex than groups of human beings engaged in warfare. Any doctrine that is mostly concerned with managing internal processes and relationships rather than coming to grips with the military problem, the mission or the enemy will fail. Current doctrine must address how internal processes and organizational relationships serve the institution in future contests with uncooperative adversaries, within unforeseeably more complex environments filled with viscous matter and unpredictable frictions.

Doctrine for such contests cannot provide ready-made formulas. It must encourage commanders to leverage their own advantages and mitigate their own vulnerabilities; maximize the potential of their own and supporting capabilities; organize flexibly; and delegate decision authority to leaders most familiar and up to date with changes in the local situation.

Only a non-doctrinaire Army can produce a non-doctrinaire doctrine. Such an Army invests heavily in developing judgment and adaptability in its leaders and fosters a culture of adaptability. An adaptable culture is composed of cohesive “teams of teams” who share trust within a climate that encourages experimentation and accepts and rewards adaptable and creative individuals willing to risk failure and “speak truth to power.” It is not enough to inscribe these ideas in manuals; these ideas have to be lived, and that is difficult.

Sound doctrine shares the virtues of a sound operations plan in many ways. For instance, doctrine can be excellent without being perfect, but it needs to be acceptable to the profession, outline the best wisdom available to guide current operations, explain it well and provide a basis for evolutionary change. Good enough doctrine sooner is better than perfect doctrine later. Doctrine refreshed frequently is better, and more readily absorbed, than doctrine that changes at long intervals. A controlled evolution, even if rapid, is easier to “get right” in the creation, and easier to digest in the field. This is increasingly important as the rate of change continues to accelerate.

Changes in doctrine, as in a plan, must explain clearly both what is new and what endures. Such balance results in a better understanding, especially when clear and concise language avoids broad generalizations and miscommunications. Doctrine, like an acceptable operations order, must be expressed in clear, unambiguous language. Broad generalizations are less useful than clear nuanced definitions. Definitions should be as “backward compatible” as good software. Avoid inventing new words, e.g., AirLand Battle, or stretching the meaning of words beyond the common dictionary meaning, e.g., synchronization. (AirLand Battle didn’t need a name, and the last thing the authors intended was an allusion to a precise machine; “coordination,” meaning “to bring into proper order or relation; to arrange, harmonize or adjust,” would have been a better term than “synchronize.”) Avoid redundancy, as words used too frequently become trite and fail to convey meaning. Sometimes new terms are introduced with a broad definition but then enter usage in a more narrow sense, thus losing their original meaning. Periodic doctrinal revisions need to address problematic language and taxonomy.

Just as in a plan, less is more. Every idea, theory, taxonomy, thought model, process, approach or method must be *useful* toward solving some relevant problem of the present or near-term future. Useful doctrine is regularly stripped of useless intellectual adornments, because minimizing the number of doctrinal publications reduces both the number of authoritative sources the profession needs to consult and the burden of keeping them up to date. There were fewer doctrinal manuals to update during the stable Cold War period than now exist in this turbulent time. In the interest of economy, the Army could have only one authoritative doctrinal reference on the essentials of ground force military art and science—it does not need a strategic, operational and tactical capstone manual—the advice of AirLand Battle doctrine was as applicable to task force commanders as it was to corps and field army commanders and staffs. It addressed the essential logic for every kind of operation relevant to the strategic missions of the day and every level of organization and left the details of method to manuals devoted to organizational echelons and functional areas. Manuals within any hierarchy tend to overlap coverage, and such overlaps are often direct lifts from an Army manual or joint publication higher in the hierarchy, or a “dumbed down” synopsis. Because there are more manuals, and because word processing facilitates copying, this is a greater problem, inviting confusion and adding to the revision burden.

Sound doctrine, like an operational plan, is in large part the manifestation of all accumulated wisdom projected onto current strategic problems articulated in current language. Just as in a flawed plan, superiority in numbers, effort or technology cannot overcome flawed basic concepts. While technology may radically transform military methods, the logic of military force acting on an adversary is rooted in human behavior and social dynamics. One major failing of the Active Defense doctrine was that it simply ignored the Army’s doctrinal roots. The AirLand Battle revision built on the excellent 1940 version of FM 100-5 and its immediate successor after World War II, and brought their relevant wisdom forward. The 1986 FM 100-5 was also influenced by what was learned from all of our adversaries since 1940 (especially the Germans and the Soviets),

and it was influenced by Sun Tzu, the most enduring theoretician, and Carl von Clausewitz, the most comprehensive. The language and early industrial-age analogies used by Clausewitz may be dated, but the meaning of “fog,” “friction,” “chance” and “moral dimension of war” can easily be translated into modern, interactively complex systems and chaos theories. That is why roots need to be cultivated and brought forward using modern analogies and language. Similarly, while much of the AirLand Battle taxonomy and mental frameworks are outdated, many key ideas of AirLand Battle merely require recultivation.

Revising or updating doctrine, like military planning, is inherently also a creative process. Such processes are normally idiosyncratic and non-linear. The planning process provides a framework for organizing and controlling the work, establishing timelines, ensuring that certain perspectives are heeded and shaping the product, but it is not the process that creates a unique and useful plan. Genius finds and uses the line of least expectation and least resistance to the enemy’s center of gravity by way of an unguarded vulnerability. Senior generals who are blessed with creative operational genius, and happen to like thinking about tactics and operational art, invariably produce creative plans, but this is not a necessity. Commanders who have a genius for finding and harnessing the genius of others also produce creative plans. Creative genius is rarely the product of a committee in which all members have an equal say, and military genius is not evenly distributed within the profession, nor does rank, education or experience necessarily correlate with it. It happened to be that Generals DePuy and Starry, and other top-level generals of the time, were sufficiently blessed with military genius, recruited, educated and harnessed the minds they respected, considered doctrinal reforms of paramount importance and were willing to immerse themselves in the work.

The generals took outside critics seriously because they realized how subtle and often imperceptible “groupthink” could be. They also realized that the recommendations of outsiders needed critical review. Mostly they valued the product of real introspection stimulated through open debate, imaginative proposals and critical reviews. General DePuy’s “boathouse gang” was certainly creative, and produced useful innovations in how to think about the interplay of weapons technology and terrain in the tactical defense, their primary concern. But the genius of Generals Starry, Richardson and Vuono was in the selection and *education* of the authors, keeping the project within the boundaries of broad intent without being directive of wording and detail, while at the same time exercising patience, openness and inclusion. Anyone can write a manual, but not everyone can write a *useful* one.

How they selected the two authors and directed their educational reading has been described; they challenged this small team to be creative and more articulate than the words they themselves often suggested, and freed the authors, who understood their thinking and intent, to use their own judgment in how, or whether, to react to the input of others. There were no bureaucratic controls between the authors and the senior generals to ensure inclusion of any particular recommendations by anyone. This freedom prevented the community at large from making doctrine a committee product.

The generals also cast a wide net for ideas. The authors were encouraged to correspond with people within the Army who were known to be intuitive operators and creative thinkers. For instance, General Richardson put me in contact with then-Major General John R. Galvin, with whom I spent an entire morning at Fort Stewart, Georgia.¹⁷ Some of our informal contacts were also captains, majors, lieutenant colonels and colonels throughout the Army. They encouraged the

authors to share their working drafts with several faculties of Army educational centers, especially those of CGSC and SAMS. Department heads encouraged and provided time for faculties and students to read drafts and share ideas.

In addition to this extraordinarily messy and informal process, the formal staffing of the 1982 and 1986 revisions was extensive in two drafts. This double staffing gathered outside ideas, refined the team's own innovations, boiled it down to what was useful and promoted acceptance. The genius of Starry, Richardson and Vuono is also evident by the limits they placed on the creative process. They avoided rushing ideas to print that needed further digestion, such as when they waited until the 1986 edition to fully flesh out what the Army really meant to say about operational art. Such creative conservatism prevents a headlong rush into intellectual dead-end canyons. Creative conservatism today might entail avoiding embracing several controversial new concepts promoted by the other services without further digestion of the need to adopt them. Finally, Army doctrine should be as much a shaper of evolving joint doctrine as a reflection of it. Twenty-first century warfare and other military operations will be mostly about how to achieve and maintain “power on the ground” for a broad range of ends. Soldiers and Marines should lead the services in thinking about this problem.

Like a plan of action, doctrine is based on assumptions and hypotheses about the impossible-to-foretell future. The better the initial framing of a problem, the better the doctrine, but any doctrine necessarily has a limited lifespan. The lifespan of AirLand Battle doctrine extended through the first Gulf War in 1991. It remained applicable to the counter-aggression campaign against the Iraqi invasion of Kuwait as it was to the defense against communist aggression in Europe and Korea. However, some faulted AirLand Battle doctrine as early as the late 1980s for not addressing the many small operations even then in evidence, such as the invasion of Grenada, the insurgency in El Salvador, the Iranian hostage crisis, the Beirut bombing, several emergency noncombatant evacuations, the incipient stages of what is now termed “the Global War on Terrorism,” or even the 1990 invasion and “regime change” in Panama, where U.S. forces first encountered the many specific and messy details that could be ignored by U.S. forces when the strategic aim is the restoration of territory and not “regime change.”

As it turned out, the long delayed revision of AirLand Battle following these campaigns was influenced more by emerging technology and lessons learned during the “counter-aggression campaign” fought in a pristine, depopulated desert environment than by the “regime change” campaign fought among the people of Panama.

In retrospect, the key to getting the Cold War-era doctrine “right enough” at the end was to eventually frame the problem properly. Just as the first post-Vietnam doctrine revisions failed to frame the problem adequately, so have the post-Cold War revisions up to now. Unfortunately, the authors of the current draft offer no improvement. For instance, the opening chapter of the June 2006 draft of the new FM 3.0 employs what was a useful Cold War generalization to describe current challenges:

Conflict can take a wide range of forms over a spectrum that reflects the magnitude of violence involved. . . . It is a way of thinking about war by placing levels of violence on an ascending scale. . . . The spectrum of conflict ranges from stable peace to unstable peace, to insurgency, to general war.¹⁸

And further on in the draft, the central discussion of how the Army will operate begins with the following paragraph:

Full-spectrum operations are the purposeful, simultaneous combination of offense, defense and stability and support. The goal of full-spectrum operations is to change the operational environment into one in which peaceful processes are dominant. However, the complex nature of the operational environment requires commanders to conduct operations across the entire spectrum of conflict. The Army provides flexible forces with balanced capabilities and capacities. These flexible and balanced forces remain able to conduct major operations while executing other day-to-day smaller-scale operations.¹⁹

To usefully describe the challenges the Army will face, and to evolve useful operating concepts, requires looking forward and reframing the problem yet again. The future is likely to pose a wide range of strategic problems that cannot be portrayed usefully on any linear spectrum. Given the variety of missions the Army has performed in the past decade, and looking forward to similar challenges ahead, it is difficult to picture what a “full-spectrum operation” might be. The authors of the initial draft are understandably reacting to recent events, but they are dangerously over-simplifying the problem, much as the Active Defense authors did. The problem of all Army operations is not only balancing offense, defense and stability operations; it will be much more complicated.

The logic of mission categories must make sense in grand strategic terms, as they did during the Cold War, and operating concepts must explain the logic of various mission types within such categories. Current doctrine authors should avoid categorizing missions by distinctions that contribute little utility, and bear in mind that the logic of operating concepts and campaign design is less about intensity and scale and more about other things. The most useful distinctions will address strategic aims and salient conditions. The purposes American military operations will serve, and the likely conditions under which forces will be committed, will differ greatly. In many cases U.S. forces must be prepared for *operational maneuver from strategic distances* under some very unfavorable and complex initial conditions, and in some cases operational maneuver can commence from forward deployed, established and familiar locations, as in a Korean contingency. War aims will differ between those who seek merely to restore pre-aggression conditions and those who seek to transform political regimes and the international system regionally, if not globally. Some wars will necessitate sudden reactions to the unexpected initiative of an adversary, and some will be at the time and place of our choosing. Some wars will pose escalatory risks and some not. Some of these may risk horizontal escalation to include regional neighbors or other global powers, and some may risk vertical escalation to weapons of mass destruction of varying kinds. FM 3.0, the book describing the fundamental logic for employing Army forces, should be clear about the relevant aspects of possible strategic missions and how to think *usefully* about them.

In conclusion, no doctrine survives “first contact” with a new strategic problem whole and intact. Every strategic problem will be unique. The strategic context, the ends of strategy, the “enemy,” the physical conditions, social contexts and technologies will change constantly, and doctrinal methods are mere points of departure for adaptation. To be sound and useful, however, doctrine cannot be a vague discussion of hypothetical cases. It has to provide solutions for very real, specific and salient strategic problems. When the key elements of that set of problems change, the doctrine loses utility and can no longer provide sound precepts. Given the rate of change in the challenges the Army will face during this century, it will be impossible to maintain the currency of any method and process based doctrine. Meaningful abstractions that capture the considerations

most important today and in the near-term future will be most useful. A doctrine that is firmly rooted in a durable conceptual base of enduring logic and principles not only absorbs nuanced change more readily but also facilitates adoption of new methods and approaches.

Then and Now

Efforts by the U.S. Army to discern the requirements of a rapidly changing strategic and technological landscape, in fact, have been underway for more than a decade and a half. They began almost immediately after the Persian Gulf War with the Army's Louisiana Maneuvers²⁰ and continued throughout the 1990s with a series of Advanced Warfighting Experiments and "Army After Next" studies and wargames. The Army then extended these efforts through a more focused series of Army transformation studies and experiments, including major wargames such as the annual Vigilant Warrior series and field exercises at Fort Hood, Texas, Fort Lewis, Washington and the National Training Center. These did not foresee the specific nature and extent of the al Qaeda attacks on 11 September 2001, but they did anticipate the threat of combined terrorist networks and criminal syndicates based in the territory of rogue nations and shielded by conventional military forces.

The Vigilant Warrior series morphed into the Unified Quest series in Fiscal Year 2003. These Army and Joint Forces Command-sponsored exercises anticipated some of the complications of "regime change" in Iraq by pointing out the fundamental imprecisions of war, the deadly possibilities of adversaries who combine regular with irregular forces using modern technologies, the manpower cost of securing attacking forces and the challenges of stability operations in the wake of large-scale offensives. The Task Force Modularity series of studies and wargames during 2003 and 2004 probed tactical, technological and organizational questions in depth. While this study examined a broad range of possibilities and cases, the Army's real experiences in the Balkans, Afghanistan and Iraq probed those cases in depth. In combination these, and a healthy dose of historical perspective, provide a sound basis for the Army to undertake meaningful revisions in its doctrine.

From a larger historical perspective, the Cold War era was a very unusual time. It was a long period of grand strategic consensus both within the United States and among its global security partners, those in NATO and those beyond NATO in the Pacific such as Japan, South Korea and Australia. A sensible way of thinking and talking about the military problems of that 20th century world had emerged, but that is not yet the case in the new century. Twentieth-century frames of reference will not suffice to explain 21st century warfare or military operations other than war, and what those should be is still up for debate.

Twenty-first century warfare will retain many of the qualities Thucydides described in his classic about the Greek Peloponnesian War because warfare has always been a social phenomenon with political aims, but in some important ways it will be different. Simple one- or two-dimensional illustrations and mechanical analogies may not convey much useful information. To usefully differentiate even the most salient strategic challenges facing the armed forces today and in the near future along a single dimensional spectrum might be simple, but it would be neither elegant nor useful. In fact, it will be as important to sort out what is different in each situation as it will be to recognize what is not. This will be very difficult to do because we will continue to use constructs and ways of thinking that were useful during this unusual period in our past, and we will tend to borrow concepts and constructs from outside the military and the service. Twenty-first century operations other than war will be just as difficult to categorize and talk about usefully.

The difficult challenge for the Army's doctrine writers will be to describe the relevant aspects of possible strategic missions, and the fundamental logic for employing Army forces successfully. It may be useful to begin by differentiating the past from the present.

The AirLand Battle Army planned deliberately and in detail for a known threat under familiar conditions; trained to perform missions that could be decomposed into specific tasks, conditions and standards; adapted doctrine, force structure and equipment through institutions responsible for adaptation over the longer term; and operated within boundaries established by fixed chains of command, fixed doctrine, fixed force structure, and within a stable and well understood grand strategic construct. Soldiers lived in a world of near certainty within these boundaries, but that Army was largely forward-deployed and stood ready to engage the enemy within 48 hours in many cases. The principal uncertainty was when and whether, rather than whom, they would fight. Those Soldiers stationed at home, whether active or reserve, stood by to react to standing plans for preconceived contingencies. Being able to do all of this represented a potent deterrent to an adversary who understood what they could do. If Soldiers had fought, they would mainly have fought on the soil of a host nation ally to expel an invader. For this brief period in history, doctrine could focus on a much narrower set of issues. Thus, calling warfare "traditional" that narrowly focuses on the military conflict, ignoring political implications and dealing with the public, as the latest Quadrennial Defense Review has done, is lacking in perspective.

In the world of AirLand Battle doctrine, there were many conceptual problems to overcome, as the previous pages recount, but the technical ones were dominant; they proved to be decisive in the conclusion of the Cold War since the Soviet military believed they could never catch up with Western technology under their system, while the West had attained rough conceptual parity.²¹ In fact, three and one-half pages of text in the 1986 FM 100-5 could capture the essence of how to deal with all the salient challenges of that time. This operational concept was summarized in the opening paragraph of that section:

AirLand Battle doctrine describes the Army's approach to generating and applying combat power at the operational and tactical levels. It is based on securing or retaining the initiative and exercising it aggressively to accomplish the mission. The object of all operations is to impose our will upon the enemy—to achieve our purposes. To do this we must throw the enemy off balance with a powerful blow from an unexpected direction, follow up rapidly to prevent his recovery and continue operations aggressively to achieve the higher commander's goals. The best results are obtained when powerful blows are struck against critical units or areas whose loss will degrade the coherence of enemy operations in depth, and thus most rapidly and economically accomplish the mission. From the enemy's point of view, these operations must be rapid, unpredictable, violent, and disorienting. The pace must be fast enough to prevent him from taking effective counteractions.²²

Operating concepts outline the logic for employing military power at the strategic and operational levels. These are sensitive to the specifics of the situation and the strategic mission.

The military problems of that time were complicated puzzles. Mission analysis involved understanding what kind of puzzle it was, then solving it. Simple graphical illustrations and analogies based on the mechanics of solids or fluids could convey much useful information. For instance, a single-dimensional device—a spectrum—could usefully, and with elegant simplicity, differentiate most of the strategic challenges the armed forces would face. This was because many important considerations of war planning and campaign design were widely agreed upon, given

out and fixed. In fact, during the Cold War, U.S. forces became accustomed to differentiating cases of war by scale and intensity because the other factors that matter in war planning and campaign design were broadly similar among cases within the greater embrace of the Cold War.

Today's Army must plan more conceptually and adapt quickly to changing and unpredictable strategic challenges and missions. It must create adaptable doctrine, force structures and equipment through its institutions and encourage all elements to adapt as necessary to changing mission needs. Its training programs must rely on intensive (and lengthy in comparison) mission-specific predeployment preparations and it must operate with flexible "modular" chains of command with dynamically variable force structures and situational allies against often ill-defined opponents that tend to evolve rapidly and unpredictably. Soldiers live in a world of far greater variability today. Only one symptom of this variability is that it is far more difficult to devise standardized training programs based on generic tasks, conditions and standards.

Soldiers have traded the uncertainty of when and whether they will engage for uncertainty about whom and where. Instead of needing to react to a hair trigger, the Army now serves a nation that can choose much more often whether and when it will engage, and Soldiers are less likely to fight near where they are garrisoned and their families live. While more of the force is stationed at home, even those stationed abroad, for instance in Europe and Korea, deploy and serve the national interest elsewhere in a cyclical rhythm. Today when Soldiers fight, they are least likely to do so on the soil of a host nation ally to expel an invader. That brief window in history when doctrine could comfortably concentrate primarily on defeating regular military forces was behind us when the Warsaw Pact began to collapse in 1989, with the exception of countering the invasion of Kuwait in 1991.

The AirLand Battle authors envisioned the requirement for interservice operational-level integration. In fact, the conceptual leap from the Active Defense to AirLand Battle doctrine involved the realization that even in the continental environment of Central Europe the idea of "landpower" made no sense at the levels of war that mattered. Those who care to check will find no reference in the 1986 manual to "landpower." That doctrinal term was just no longer useful, and it was a mistake to revive it. The requirements for tight integration of service operations have only increased since Grenada, where it was found grossly deficient. This trend will compel changes in methods of integration beyond increasingly impractical spatial "deconfliction." The logic for it should rest primarily in the principle of "comparative advantage," as in the science of economics. The logic of the joint commander should be to use the tools and capabilities of whatever service provide him the greatest "comparative advantage" under the circumstances. The current doctrinal revision should embrace this concept.

Changes in warfare also favor tightly integrated joint task forces capable of projecting "power on the ground" that is *discriminating and focused*. The nation's security interests will be contested increasingly in populated and urbanized terrain or remote hidden outposts, and strong, agile, discriminating and knowledgeable land component forces will be required to contest control of the ground. Insights from future Army and Air Force Title 10 war games and studies from the standpoint of comparative advantage, as well as a careful review of operations in Kosovo, Afghanistan and Iraq, lead to the same conclusions. Naval, air and space forces may gain information about objects and activities on the ground, and they may influence activities and strike objects, but only truly integrated operations containing a sufficiency of ground forces can *control* activities of adversaries and *enforce* desired outcomes in *all* cases. Naval, air and space forces may be able to do so in special circumstances when the strategic aim is to deter, warn, suppress or punish, but when implacable

foes have to be defeated and the desired outcome is a *specified* new condition, only unified action including a significantly large land force can secure it. These propositions are based on a more subtle logic than is presently in evidence in joint and Army doctrine, but they are based on the kind of razor-sharp logic the 21st century demands. However, the logic for judging the relative size of the land component needs to be rationalized and agreed upon, not only in ground service doctrines but also in joint publications.

The implications are also clear for the Army as an institution. The changes in warfare tend to favor “labor intensive” over “capital intensive” solutions, but such “labor intensive” solutions will emphasize quality, or “street smarts,” over quantity, much as in the new business sectors. The Army and its Soldiers must learn and adapt much more rapidly under far more complex conditions. Officers will require the ability to think both critically and creatively about changes in the military art and science. They must understand both hierarchical and complex organizations, and the principles that shape force development, new concepts for operations and military leadership in a dynamic and uncertain future. This means that doctrine and the military art and science must evolve to keep pace with relevant changes, and its evolution must remain coherent, comprehensible and disciplined.

For instance, during the last century military problems could be thought of as puzzles with agreed solutions, even if they were structurally complex ones. Because of this, thought models were drawn from either the mechanics of solids or fluid dynamics, as in discussions of mounted maneuver warfare or Blitzkrieg. They worked as long as war could be pictured as clashing uniformed masses, flowing rivers of metal adapting to enemy and terrain, waves of aircraft and stately armadas. After the first Gulf War, shallow “bumper sticker” concepts captured the imagination of DoD officials and the public—“Shock and Awe,” “Global Reach—Global Power,” “Operational Maneuver from the Sea,” “Rapid Decisive Operations” and now “Effects Based Operations.” While these all contained scraps of wisdom and rested on some evidence of what new weapons technology could do, they also contained hidden false assumptions about our adversaries and substantial hubris about the capabilities of technical intelligence. It could also be argued that these various concepts were designed by engineers to solve structurally complex puzzles. The thought models they were based on led to linearity and deterministic expectations. Today these overly simplistic and technology-based formulas for modern war have lost their appeal, and war is recognizable again as a complicated and deadly struggle of human groups within an increasingly complex global environment.

The one inescapable aspect of warfare in this new century will be “warfare among the people.” Population densities are increasing everywhere, especially in underdeveloped and failing states. Knowledge of social dynamics and the cultural mosaic will matter more. Even when Soldiers engage in warfare with other states, they may also make war against stateless allies while they cooperate with some social groups or communities within it, compete with others and maintain neutrality with still others. Rules of engagement have become more specific and of greater strategic importance, and this trend will continue. Not only will conventional and unconventional forces become more synergistic, but conventional forces will increasingly adopt means and methods formerly thought unconventional. For instance, it will be difficult to imagine cases in which psychological operations and civil affairs specialists should *not* be embedded in “conventional” staffs and units.

More recently much of the profession has returned to the literature of irregular warfare, and that too will provide some wisdom, even though “class struggle” insurgencies of the 20th and 21st century struggles for power in failed or failing states, or among transnational organizations

and states, are quite different. But in addition to wisdom in these areas, the profession needs to understand more about how human beings think, and how ideas are propagated through societies. Warfare is as much about influencing the decisions of others as it is about forcing adversaries to accept our terms. The best preparation for the authors of the new FM 3.0 would be to read about the science of how people think and how social groups are influenced. Two books by Malcolm Gladwell—*Blink: The Power of Thinking Without Thinking*²³ and *The Tipping Point: How Little Things Can Make a Big Difference*²⁴—are valuable reading on this topic. It will be increasingly important to balance the predominantly “hard science” precommissioning education of most officers with rigorous new ways of thinking.

If in the world of AirLand Battle doctrine the technical problems were more dominant than the conceptual ones, today and in the near future this situation is reversed. It will require the reinterpretation of the recent and ongoing technical revolution, the renewal and enrichment of old forgotten concepts, an adjustment of command and control doctrine, a new and more specific logic for estimating the need for ground forces and a broader reframing of the problem to arrive at a more satisfactory solution for mission categories and operational concepts.

The current challenge is well beyond that of the Active Defense/AirLand Battle era, and there are, of course, some very important differences that make writing sound doctrine much more difficult today. However, today’s Army is far better educated; it has conducted useful studies of future challenges; the accumulated experience since Operation Urgent Fury in Grenada has provided useful intuition; and the current Army leadership is as capable as any the Army has ever had.

Endnotes

- ¹ Brigadier General Robert H. Scales, Jr., *Certain Victory: The U.S. Army in the Gulf War* (Dulles, Va.: Potomac Books, 1998), pp. 106–107.
- ² Even the Army's most forward-looking concepts published prior to 11 September 2001 were based on premises of then-current strategic planning guidance.
- ³ There is more literature in support of these ideas than against them, e.g., Harlan Ullman, James Wade, Jr. with L.A. Edney, Frederick Franks, Jr., Charles Horner, Jonathan Howe and Keith Brendley, executive secretary, "Shock & Awe: Achieving Rapid Dominance," Center for Advanced Concepts and Technology (ACT), funded by the C4ISR Cooperative Research Program of the Assistant Secretary of Defense (C3I), Department of Defense, USA, 1996; David S. Alberts, John J. Garstka and Frederick P. Stein, "Network Centric Warfare," Center for Advanced Concepts and Technology (ACT), funded by the C4ISR Cooperative Research Program of the Assistant Secretary of Defense (C3I), Department of Defense, USA, 1999; and William A. Owens, *Lifting the Fog of War* (New York: Farrar, Straus, 2000). One could easily add the Defense Science Board "Summer Study" Task Forces of 1998 and 1999.
- ⁴ For instance, see Brigadier General Huba Wass de Czege, "Using Information Technologies to Reduce the Army's Echelons," *ARMY*, April 2002.
- ⁵ See Major General James M. Dubik, "Has Warfare Changed? Sorting Apples from Oranges," Landpower Essay No. 02-3 (Arlington, Va.: Association of the U.S. Army, July 2002).
- ⁶ See Brigadier General Huba Wass de Czege, "Wargaming Insights," *ARMY*, February 2003. See also Brigadier General Huba Wass de Czege, "The Close Combat Imperative: Some Compelling Ideas on the Road to a Future Army," *Armed Forces Journal*, August 2002.
- ⁷ The 1976 FM 100-5 was known as "Active Defense." The Active Defense doctrine was the conventional thinking about the way a war in Western Europe might develop: the Warsaw Pact would attack and NATO forces would hold their ground long enough to arrange for reinforcements, after which the Soviets could be turned back. Some critics derisively called the plan "fall-back by ranks."
- ⁸ So called because they worked in a building once used as a yacht club.
- ⁹ Frederick W. Lanchester was an English mathematician and engineer who created a series of differential equations known as Lanchester's Power Laws. These laws describe how two forces would attrit each other in combat, and demonstrated that the ability of modern weapons to operate at long ranges dramatically changes the nature of combat—in the past a force that was twice as large had been twice as powerful, but now it is four times as powerful, the square of the power ratio.
- ¹⁰ The U.S. Army first provided its Soldiers a list of principles in 1921. They are: objective, offensive, mass, economy of force, maneuver, unity of command, security, surprise, simplicity (from 1993 FM 100-5, *Operations*).
- ¹¹ Later, as a lieutenant general, he retired after serving as commandant of CGSC and commander of the Combined Arms Center at Fort Leavenworth. Major Holder had just served as Regimental S-3 in the 2d ACR under the imaginative and colorful but tough task master Colonel (later Major General) Robert Wagner. He brought with him great practical experience under a respected coach, and a broad self-education in the literature many of the outside "maneuverist" reformers had been quoting, e.g., B. H. Liddell Hart and J. F. C. Fuller. Major Holder had also spent two years at Harvard earning a master's degree in History.
- ¹² I had served as deputy operations officer and mechanized battalion commander under General Cavazos in the 9th Infantry Division. As his deputy G-3, I would frequently bring papers for him

to sign, and on such occasions would often be handed a book to read. The last book the general had recommended, before he left to command the III Corps, was John Keegan's newly released *Face of Battle*. I was also a known critic of the 1976 doctrine, having written the monograph "Understanding and Developing Combat Power" as a CGSC student in 1976. This was an early critique of the mechanistic nature of the 1976 doctrine that had reached LTG Richardson's desk. (This theoretical application of systems theory to the interactive complexity of combat had never been published, but had been recopied many times and circulated around the Army between 1976 and 1980.) I had also been one of a small handful of CGSC students during the 1974 through 1976 academic years who had designed the internal rules and workings of the First Battle wargame, the recently adopted command-post exercise driver. The only reason to mention this is that it was all useful mental preparation.

¹³ General-Lieutenant V. G. Reznichenko, General-Major I. K. Vorobyev and Colonel M. F. Miroshnichenko, *Taktika* (Moscow: Voenizdat, 1987).

¹⁴ A. A. Siderenko, trans. U.S. Air Force, *The Offensive* (Washington: U.S. Government Printing Office, 1970).

¹⁵ Russell F. Weigler, *Eisenhower's Lieutenants: The Campaign of France and Germany 1944–1945* (Bloomington: Indiana University Press, 1981).

¹⁶ Updated 17 September 2006. See http://www.dtic.mil/doctrine/jel/new_pubs/jp3_0.pdf.

¹⁷ I can also recall discussions and correspondence with other interested and engaged general officers such as then-Major or Lieutenant Generals Paul Gorman, "Jack" Woodmansee, Frederick Brown and Walter Ullman, and then-Brigadier Generals or promotable Colonels Gordon Sullivan, Edward Burba and Frederick Franks. This list is incomplete, I'm sure. The point is that these generals were sought out not because of their current or past responsibilities but because they were known to be sound and imaginative thinkers.

¹⁸ Army Field Manual 3.0, *Full-Spectrum Operations*, 21 July 2006, draft, pp. 1-4–1-5.

¹⁹ *Ibid.*

²⁰ The original Louisiana Maneuvers, upon which the 1992 concept was based, took their name from "several high-level, increasingly complex, experiment-based field exercises that the Army conducted, principally in Louisiana, during 1940 and 1941." James L. Yarrison, *The Modern Louisiana Maneuvers* (Washington: U.S. Army Center of Military History, 1999), p. 1.

²¹ From personal discussions in 1981 with the senior Warsaw Pact defector mentioned in the text, and then later discussions with senior Warsaw Pact generals and defense officials while serving as Arms Control Branch Chief at Supreme Headquarters, Allied Powers Europe, during the Conventional Forces Europe (CFE) Arms Control Treaty development period from fall 1988 to summer 1991.

²² Field Manual 100-5, *Operations*, 5 May 1986.

²³ Malcolm Gladwell, *Blink: The Power of Thinking Without Thinking* (New York: Little, Brown, 2000).

²⁴ Malcolm Gladwell, *The Tipping Point: How Little Things Can Make a Big Difference* (New York: Little, Brown, 2005).

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