



**THE  
LAND  
WARFARE  
PAPERS**

No. 20

JUNE 1995

**Setting the Terms of Future  
Battle for Force XXI**

Douglas A. Macgregor

A National Security Affairs Paper  
Published on Occasion by

**THE INSTITUTE OF  
LAND WARFARE**

ASSOCIATION OF THE  
UNITED STATES ARMY  
Arlington, Virginia

**SETTING THE TERMS OF FUTURE**

**BATTLE FOR FORCE XXI**

**by**

**Douglas A. Macgregor**

**The Institute of Land Warfare**

**ASSOCIATION OF THE UNITED STATES ARMY**

## **AN AUSA INSTITUTE OF LAND WARFARE PAPER**

The purpose of the Institute of Land Warfare is to extend the educational work of AUSA by sponsoring scholarly publications, to include books, monographs and essays on key defense issues, as well as workshops and symposia. A work selected for publication as a Land Warfare Paper represents research by the author which, in the opinion of the editorial board, will contribute to a better understanding of a particular defense or national security issue. Publication as an Institute of Land Warfare Paper does not indicate that the Association of the United States Army agrees with everything in the paper, but does suggest that the Association believes the paper will stimulate the thinking of AUSA members and others concerned about important defense issues.

### **LAND WARFARE PAPER NO. 20, JUNE 1995**

#### **Setting the Terms of Future Battle for Force XXI**

by Douglas A. Macgregor

Lieutenant Colonel Macgregor has authored numerous works in academic journals and edited volumes on European security matters including one book, *The Soviet-East German Military Alliance*, published in 1989 by Cambridge University Press. He is a 1976 graduate of the U.S. Military Academy and later served as an Associate Professor in the Department of Social Sciences. He holds a PhD in international relations and a Master of Arts in comparative politics from the University of Virginia. At the time of publication, he was assigned to the War Plans Division, Office of the Deputy Chief of Staff for Operations and Plans, Department of the Army. Beginning in July 1995, he will serve for a year as an Army Fellow at the Center for Strategic and International Studies.

This paper represents the opinions of the authors and should not be taken to represent the views of the Department of the Army, the Department of Defense, the Institute of Land Warfare, or the Association of the United States Army or its members.

© Copyright 1995 by  
the Association of the United States Army

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, whether electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the AUSA Institute of Land Warfare, 2425 Wilson Boulevard, Arlington, VA 22201.

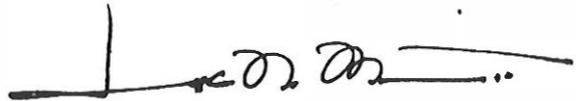
Inquiries regarding this and future Land Warfare Papers should be directed to: Association of the United States Army, Institute of Land Warfare, telephone: 1-800-336-4570 or (703) 841-4300, extension 320.

## CONTENTS

Foreword.....	v
Introduction.....	1
<i>“The only thing worse than a battle won, is a battle lost.”</i> .....	2
<i>“No plan survives contact with the enemy.”</i> .....	6
<i>“It is in the minds of the commanders that the issue of battle is really decided.”</i> .....	11
<i>“The modern army commander must free himself from routine methods . . . .”</i> .....	13
Endnotes.....	16

## FOREWORD

In this work the author explores the training implications for the Army as it attempts to cope with technological change in the context of **Force XXI**. At issue is what can be done now to prepare the Army in peacetime for the potentially revolutionary impact that new technology will have on the future conduct of war. Herein lies the real challenge for the Army. Wedded to past success, can the Army understand and accommodate the imperatives of change embedded in **Force XXI**? Clearly, the process of adapting to technological change and developing effective ways to prepare Army forces for future battle is of great interest to America's professional soldiers.



**JACK N. MERRITT**  
General, U.S. Army Retired  
President

June 1995

# SETTING THE TERMS OF FUTURE BATTLE FOR FORCE XXI

## Introduction

During the 1980s, when the Soviet threat dominated American military thought, the Army leadership implemented a series of revolutionary training programs that began the demanding process of institutionalizing competence at the soldier, platoon, company and battalion levels by demonstrating in great detail what was required to be trained.<sup>1</sup> Few American soldiers were untouched by the combat training center (CTC) experience, the Battle Command Training Program and a host of other training initiatives, and it is no exaggeration to state that the profound impact of these programs on training in the U.S. Army played a major role in transforming the Army of the '70s into the powerful force that overwhelmed the Iraqi armed forces in Operation Desert Storm.

Many issues emerge from a discussion of how the Army was reinvented in the 1970s and 1980s. However, one stands out as especially important: *the way in which the professional military changed its thinking about future war.*<sup>2</sup> To gain and maintain the initiative in a new period of potentially revolutionary change, the Army's current leaders have developed Force XXI to evaluate new means of capitalizing on American mobility and technology within an adaptive strategic framework. Embedded in the Force XXI vision are a number of important implications for thinking about future warfare. Two of these implications apply directly to combat:

- First, that the increased range, accuracy and lethality of new weaponry not only expand battle space, new military technology also creates dangerous conditions for maneuver forces that attempt to operate on future battlefields within the existing doctrinal and structural limits of contemporary Army forces.
- And, second, that the success of future warfighting rests on the foundation of information dominance.

These observations are important. If today's Army leaders are to ensure that peacetime military thinking does not diverge dramatically from the reality of a future battlefield, then these analytical insights must be addressed in the context of contemporary Army training. Otherwise, measures to incorporate new technology in lethal or nonlethal forms will not make much difference if the tactics and methods of application in combat remain unchanged. Real war may force changes in the way the professional military thinks, but not assuredly. Wedded to past success, peacetime military leaders frequently fail to understand new forms of warfare until their forces are defeated by a wartime opponent who does understand.<sup>3</sup> Thus, the first step in the direction of accommodating technologically-induced change and modifying warfighting structures — reorienting military thought to keep pace with the transformation of war — may be the most difficult step of all. It is against this background that our discussion of setting the terms of battle for Force XXI must begin.

With these points in mind, this paper explores whether the Army is preparing to meet the challenges of the '90s and the 21st century with a training experience designed for the Army of the early '80s. Most important, this paper asks what can be done in training today to more effectively develop and exploit undeniable qualitative advantages in American doctrine, leadership and technology.

*The only thing worse than a battle won, is a battle lost.*

The Duke of Wellington<sup>4</sup>

Americans are extremely competitive, relishing their opponents' losses as exuberantly as they boast of their own victories.<sup>5</sup> For obvious reasons, sports contests are not only America's favorite form of entertainment but also its principal model and metaphor for life in American society. Nevertheless, war is not a game. War is never called on account of darkness, much less canceled because of inclement weather. Indeed, thinking of war as a kind of game or sport is overly simplistic!

These comments notwithstanding, a force-on-force battle at the National Training Center does resemble an athletic contest. It is of limited duration, takes place on or in a fixed and finite site and is, of necessity, governed by openly promulgated rules, defined in handbooks that are available to everyone and enforced on the spot by observer-controllers (OCs). To the soldiers who fight the battles, a win or a loss at the CTC can be described in absolute terms. It is to say, in paraphrase of Vince Lombardi's legendary dictum, that for our soldiers winning at the CTC isn't everything, it is the *only* thing that counts!

For obvious reasons, a brigade or battalion commander is at his worst if he tells his soldiers at the end of a CTC rotation, "We trained safely and we learned a lot," when the soldiers know perfectly well that they were defeated in every encounter with the opposing force (OPFOR). The ordinary American soldier is exceptionally bright and has surprisingly good instincts for what is true and what is not. American soldiers instinctively grasp the fundamental fact of military life that in combat, winning is everything.

Having said this, measuring the performance of a task force at a combat training center on the basis of wins and losses against the OPFOR is risky. It potentially misinterprets both the underlying purpose of the CTC and the nature of the profession itself. The quality of the performance does count. However, to legitimize losing by emphasizing the process at the expense of results is riskier. General George McClellan was a commander of undoubted ability and courage, but his will was less powerful than his imagination.<sup>6</sup> In effect, McClellan mastered the process, but could not produce the desired result — victory in battle. Too many task force commanders rationalize mediocre performance in action against the OPFOR by insisting that OPFOR advantages make victory nearly impossible. This helps to explain why so many task force commanders and their staffs

define success at the CTCs in terms of whether the development of detailed written operations orders and the conduct of elaborate rehearsals have met the expectations of observer-controllers. The notion that winning is important is lost in the race to check the blocks on an imaginary OC checklist.

Of course, opening up the possibility of conducting force-on-force training at the CTC with the intent to equate victory over the OPFOR with success raises the question of the need for a new training strategy. In the case of force-on-force training, there are ways in which organizational and operational changes can themselves be revolutionary and achieve significant improvements in military performance without buying new technology. One way is to focus attention in the after-action reviews on the conduct of the fight. After all, planning and tactics are not the same things. After-action reviews that blame all failure in action against the OPFOR on inadequate wargaming or on a lack of detailed planning neglect this fact.

In practice, the Army treats warfare as an activity that can be carefully orchestrated. As a result, simulated combat at the training centers has accustomed a generation of leaders to look at war more in terms of the plans and preparations to fight than of the results that can be achieved in action. Because of the concern with synchronization in operational and logistical planning, little attention is devoted in training to the missed or seized opportunities for battlefield success which may result from new fighting techniques and tactics. The application of tactics involves more than matching the right weapon system with the right target. Tactics entail combining and using technology with a human dimension. Great practical difficulties face the wartime commander who ignores the truth that warfare is really exploratory in nature and who develops a plan that restricts the tactical initiative of his subordinates in battle. Prewar training should be structured to prepare units to cope with a turbulent environment in which the only constant is change itself.

Removing some of the OPFOR's tactical advantages in order to create a broader opportunity for success may prove to be one enabling mechanism for this new approach. Too many units simply experience what not to do through repeated "discovery learning." They seldom experience success. However, simply drawing boundaries or repositioning units to deny the OPFOR indisputable terrain advantages will not be enough. Because the task force's lack of success is not always a function of what the OPFOR does, but what the task force has been trained to do, a new training strategy in the context of Force XXI requires a fundamental reassessment of American tactics.

Nothing illustrates this better than the tactic of digging in armored fighting vehicles during defensive operations. The tactic has its origins in the Israeli experience during the 1973 war with Egypt and Syria and in the U.S. Army's Cold War concepts for general defense planning. In places like the Fulda and Meiningen Gaps, the concept of forward defense compelled U.S. forces to defend from relatively static battle positions under a rainstorm of massed, industrial-age Soviet artillery fire.

In an industrial-age environment in which the potential to dominate extended battlespace could not match today's capability, immobilizing armored formations in Maginot-style defenses may have made some sense. But in the world of Force XXI, where the enemy can accurately observe and acquire a friendly force's position, static defensive works are highly vulnerable, as this German officer's account from World War I illustrates:

What I have been through during this time surpassed in horror all my previous experiences during the second year of the war . . . how the English, with the aid of their airmen, who are often 1,500 feet above the position, and their observation balloons, have exactly located every one of our batteries and have so smashed them up with long-distance guns of every caliber that the artillery has had unusually heavy losses both of men and material. Our dugouts, in which we shelter day and night, are not even adequate.<sup>7</sup>

Had the reader not been told that the author of this anecdote was a German, the reader might have mistaken the passage for an Iraqi description of the Gulf War! It is also not difficult to understand why the CTC OPFOR's rocket artillery inflicts such heavy casualties on defending friendly forces in the course of a deliberate OPFOR attack. OPFOR reconnaissance units perform the same service for their respective artillery support as the Royal Air Force pilots did for the British artillery in World War I. It does not require a "leap ahead" in thinking to conclude that light or heavy forces which immobilize themselves in Maginot-style defenses on the Iraqi model will be targeted by unmanned aerial vehicles, satellites and aircraft with instantaneous communication links to terminally-guided weapon systems and be destroyed by rocket artillery or precision-guided munitions.<sup>8</sup>

In the interval that separates today's Army from the Army of the Cold War, it has also become clear that the tactic of massing the fires of all weapons within range of an enemy's concentration must be adjusted to accommodate technological change. On the deepening battlefield of the future, the operational tempo will increase by new orders of magnitude and lethal precision-guided missiles will be launched at still greater ranges, for the most part beyond the visual range of engaged forces. Forces will be able to mass the effects of their fires without massing their troops.

Yet, task force commanders are not encouraged to disperse their attacking forces on a broad front because conventional wisdom suggests that to do so jeopardizes the unit's ability to mass. In light of the Army's Cold War mission to conduct defensive warfare in Central Europe, faith in this tactic of massing troops for command, control and firepower may have made sense. In former times, ground forces had to mass effort. Clearly, this is no longer required.

To complicate matters further, the emphasis in contemporary tactical training on "controlling the battle" limits the lateral exchange of information between air and ground combat elements on the level where its effects will be immediately felt.

Because this obsession with control is, in part, based on the false premise that the commander must know and control everything all the time, the task force commander is handicapped in two important ways: First, he is subjected to information overload; and, second, the speed of the slowest element in the task force determines the pace of the operation as a whole. This approach contrasts sharply with that of the Germans who insisted in 1940 that attacking forces should exercise initiative in battle in order to exploit opportunities and find ways to keep up with the fastest moving elements in the German Army — tanks.

Today, a small, well-drilled and coordinated air-ground combat team with instantaneous communication links to rocket artillery batteries can be counted on to accomplish more than a larger industrial-age force. Unmanned aerial vehicles and satellites can maintain the enemy under near constant surveillance. Modern rotor-driven aircraft can operate forward of and to the flanks of rapidly advancing ground troops, directing suppressive and neutralizing artillery fire while attacking enemy forces with precision-guided missiles from behind. At the same time, pilots and their automated systems can pass valuable information directly to vehicle, platoon, troop/company/battery and task force commanders that can dramatically accelerate the pace of operations.

Armed with this real-time information at the platoon level and aided by the capability to engage the enemy with accurate tank fire at speeds of 35+ miles per hour, M1A1 tanks can rapidly penetrate and annihilate enemy formations at greatly reduced risk to attacking friendly forces. Most important, the combination of mobility and real-time information enables the commander to avoid contact with the enemy until that contact can be made at a point in time and space and under conditions that are all advantageous to friendly forces.

Fortunately for the American defense establishment, American soldiers learn quickly in wartime and apply whatever works in order to achieve success in battle.<sup>9</sup> More than one experience with a determined and capable enemy on a future battlefield will not be necessary for American combat formations to emphasize speed, mobility, dispersion and depth in their tactics. In developing Force XXI, however, the Army leadership must adapt tactical training now before tomorrow's tactical probabilities become today's harsh battlefield realities. If one tactical approach fails, abandon it. If another works, adopt it. In order to exploit new fighting power, the Army's leaders must convince themselves of the possibilities in training.

These kinds of attitudinal changes in the conduct of training do not require additional funding. Nor will these proposed changes reduce the pressure on commanders and their subordinates to perform well. On the contrary, the pressure to innovate and win will create new incentives to improvise, adapt and change tactics. It follows that "success" in this training environment will require subordinates to operate within the framework of the higher commander's intent while they identify and take full advantage of the opportunities offered by enemy action or by chance combinations of circumstances to win.

Best of all, demanding that commanders at all levels focus more on results than on method and process will dictate change in both the type and structure of battles that task forces and squadrons will be trained to fight. The experience in the Persian Gulf only hints at what a future conflict with a well-equipped enemy might be like, but it provides a glimpse that is consistent in outline with the vision for Force XXI: In combat operations after the invasion of Iraq, most U.S. combat units received their missions and fragmentary orders over the radio and relied primarily on their own resources for the collection of real-time intelligence.<sup>10</sup>

Based on these observations, with the exception of the initial mission, commanders at battalion, brigade and division level should be given less time to plan. The transition from an industrial-age armed force to an information-age Force XXI clearly requires a new timetable for operations. For reasons that will be discussed below, commanders should be compelled to think quickly in order to develop and execute operations in a more fluid and unpredictable environment.

***No plan survives contact with the enemy.***

Field Marshal Helmuth von Moltke<sup>11</sup>

On St. Valentine's Day 1943, 30,000 Americans confronted 11,000 Germans in combat for the first time during World War II. The U.S. Corps commander, Major General Lloyd Fredendall, was among the officers named in General George Marshall's file who had distinguished themselves as meticulous planners and expert trainers in the interwar period. On paper there was no reason to doubt General Fredendall's capacity for battlefield leadership and command. By any standard, his record was a distinguished one. He simply made the mistake of employing new technology in old ways. The rest of the story is too well known to repeat here. But it is worth noting that although Fredendall had superior resources, as well as advance notice of German plans and intentions thanks to ULTRA secret intelligence intercepts, his determination to fight a centrally-controlled, set-piece battle resulted in one of the U.S. Army's worst defeats in this century.

Military historians agree that Fredendall's meticulous placement of American combat troops ultimately paralyzed the American defense. In the words of the 1st Armored Division historian, "The inevitable consequence of these arrangements was rigidity and delay in meeting the unforeseen."<sup>12</sup> When an Associated Press correspondent in Italy passed the word to Eisenhower in 1943 that the problems at Salerno and Anzio stemmed from a "play-it-safe" attitude in the field commands, Eisenhower concluded that the Anzio stalemate was really part of the Kasserine legacy. What Eisenhower wanted and eventually found in Patton, Collins, Wood and others were field commanders who "could be depended upon in any situation to act promptly and effectively without waiting for detailed instructions from above."<sup>13</sup>

The American experience at Kasserine was not unlike the French experience against the Germans in 1940. Both emphasized the preponderance of firepower in combat and underlined the importance of central command controlling the battle as it unfolded. The French conceived of war as the measured application of firepower from carefully prepared defensive positions.<sup>14</sup> In addition, French commanders at every level were unwilling to consider the notion that an immediate attack with a few well-trained resolute forces could achieve more than a later deliberately planned attack with larger forces.

Victory eluded the British Army for most of the Second World War for similar reasons. Field Marshall Erwin Rommel attributed much of his battlefield success against the British Army to the British leadership's failure to comprehend modern mechanized warfare. He observed that the British leadership's "unwieldy and rigidly methodical technique for command, their over-systematic issuing of orders down to the last detail, leaving little latitude to the junior commander, and their poor adaptability to the changing course of the battle were also much to blame for the British failures."<sup>15</sup> In other words, like the French and the Americans, the British had developed habits of command and control and a vision of future battle that could not be modified to match real or unexpected challenges. Montgomery's defeat in operation "GOODWOOD" after the Normandy landings provides further evidence of the dangers posed by highly centralized battlefield command and control and an overreliance on detailed planning and rehearsal. In the space of just 24 hours, a battle group-size element in the German Army under a young, energetic colonel halted the advance of four British divisions and destroyed 425 British tanks in the process.<sup>16</sup>

In many key respects, maneuver training today is structured in ways that would have satisfied the prewar military establishments' consuming need for information, detailed planning and preparation. But they do not frequently expose U.S. combat troops and their leaders to the greatly accelerated pace of modern warfare. Further, advances in microcircuitry, directed energy and a host of other new breakthrough technologies are unlikely to slow the pace of warfare. Unsurprisingly, contemporary analysts warn that the future battlefield will be characterized by much higher uncertainty and complexity than in the past; that the more rapid pace of events, greater dispersion, and greater lethality of new weapon systems will compress the time span between inception and implementation of command decisions and increase the need for junior-leader autonomy.<sup>17</sup> Of course, this trend is not a new phenomenon. Major General J.F.C. Fuller argued in 1940:

As initiative, far more so than method, will prove to be the secret of success in all operations other than siege warfare, plans will have to be exceedingly simple and flexible. Much will have to be left to the initiative of subordinate commanders. . . . In operations which for success or economy of force depend upon rapidity of movement, our present system of written and somewhat detailed operation orders will have to be replaced by some such system as I have just outlined.<sup>18</sup>

The dilemma facing the modern battlefield commander is to balance the desire and need for detailed information at every level against the requirement to act quickly and decisively to defeat the enemy. There are very few leaders of large organizations that are more dependent on accurate and timely information than the modern battlefield commander. In a life or death situation, the probability of making a correct decision would seem to increase when key elements of information are both available and accurate.

The deliberate planning process as it is taught in the classrooms of the Army's Command and General Staff College is designed to provide an analytical framework for the organization and interpretation of information which the commander needs in order to make a decision. Electronically collected and transmitted intelligence has added considerably to the amount of information that is available and only increased the pressure on the commander and his staff to lengthen rather than shorten the planning process. In turn, this pressure has also tended to increase reliance on formal decision tools such as decision support templates and execution matrices. Frequently, these tools are actually used to supplant the traditional operations order for the sake of organizing information and simplifying analytical tasks.<sup>19</sup>

In part, the CTCs solve this dilemma for commanders by giving them plenty of time to plan during training. With the exception of brigade operations, 24 to 36 hours are available to the task force commander to execute the deliberate planning process and to devise the tactical solution for each successive battle. Task force commanders also receive complete operation orders from the respective higher headquarters for each mission.

In virtually every instance, the mission is straightforward and a substantially abbreviated planning process would work. For instance, a more abbreviated approach would rely on the commander's judgment to exclude courses of action up front that make no sense and are not consistent with the higher commander's intent. A simple realization that in the desert the enemy can operate in nearly all terrain and some reflection on how the enemy historically attacks or defends would be enough to facilitate the issuance of a fragmentary order over the radio that includes enemy situation, mission, intent and concept of the operation.

This is precisely the approach taken by Major General John S. Wood and General Creighton Abrams during World War II, but today's task force commanders are not encouraged to do it. Fifty years ago, General Wood went so far as to dispense with phase lines, zones of attack, and secure flanks as his 4th Armored Division drove across France. One observer noted that General Wood frequently "out Pattoned Patton!"<sup>20</sup> Assuming that these methods have some validity in the context of Force XXI, why is the Army's simulated battlefield environment rigidly structured for exercises in lengthy, deliberate planning?

Although it is fair to say that the combat training centers allow units in training more preparation time than they can realistically expect in combat, the “Kasserine-style” defeats sustained by many BLUEFOR (Blue Force) units are even more disturbing. Apart from any institutional OPFOR advantages, what is wrong with the way task forces are training and planning to fight? In the context of Field Manual FM 100-5, *Operations*, nothing is wrong. General George C. Marshall sought answers to similar questions during the years before the outbreak of World War II.

General Marshall had misgivings about the way the Army trained its leaders for combat in the early 1930s. He felt strongly that the Army schools of his day encumbered graduates with elaborate theory and time-consuming technique — especially that of producing complex, written operation orders — so inappropriate for contemporary warfare. General Marshall feared that the lessons imparted to student officers might cause chaos in the opening campaign of the next war. General Marshall expressed the following views about the instructors at the Infantry School in a letter to a friend in October 1933: “I found it next to impossible to convince instructors long absent from troops and steeped in school technique, of the urgent need for simplifying matters, no matter how great their war experience, and no matter how loyal they were. They had become unconscious creatures of technique and lived in the experiences of the fourth year of the war [World War I].”<sup>21</sup> With General Marshall’s words in mind, consider the following points:

In contrast to the OPFOR that emphasizes speed of movement, simple rehearsed battle drills in response to predictable situations and relatively simple schemes of maneuver based on reconnoitered routes and checkpoints, the task force treats every mission as an entirely new challenge, separate and distinct from all others. Extensive rehearsal, wargaming and centralized control of often complex operations is necessary to compensate for the absence of battle drills and formations, as well as the perceived inability to rely on the initiative of subordinates. Faith in the strength of the plan creates a false sense of confidence in the task force commander who, together with his staff, has labored to produce it. When new intelligence surfaces just prior to the execution of combat operations, it is often ignored or rejected because it is too difficult to change the plan. At the same time, subordinates at every level are supposed to rehearse and remember a multitude of branches and sequels to the plan that few combat leaders will recall in the heat of battle. Further, they cannot address everything the enemy can do.

One of the Battle Command Training Program Team’s observations is that the most frequent result of the deliberate planning process in division and corps warfighter exercises is the frontal attack!<sup>22</sup> It may be that the deliberate planning process has imparted an institutional character to what was known in former times as the council of war. While the staff planning process throws the difficulties of any scheme into sharp relief, it is up to the commander to see the possibilities. General T.J. Jackson learned this lesson at Winchester, Virginia in March of 1862. Jackson’s staff thwarted his efforts to launch an attack on the grounds that too few supplies were on hand and too little time remained to plan the assault. On withdrawing his forces from Winchester, Jackson said, “That is the last council of war I will ever hold!”<sup>23</sup>

It is no surprise that more than one task force commander has wondered whether the OPFOR doesn't hold the initiative by virtue of the pressure on the task force to execute the deliberate planning process for every mission. More than one commander has failed in combat because he waited too long for "enough" information to make a decision. The first Battle of Bull Run may have been the best planned battle of the Civil War, but it was lost for reasons that had nothing to do with the plan. Rommel reached similar conclusions in 1942. He wrote: "Speed of judgment, and action to create changing situations and surprises for the enemy faster than he can react, never making dispositions in advance, these are the fundamentals of desert tactics."<sup>24</sup>

As mentioned earlier, these observations provide further evidence for the contention that combat cannot be controlled. In part, this is why General George S. Patton, Jr., was fond of saying: "War is 10 percent planning and 90 percent execution." This is why General Heinz Wilhelm Guderian sought to turn battlefield opportunism into a system and why first the German field commanders and later General Patton's subordinate commanders were prepared to change plans minute by minute in the face of enemy opposition.<sup>25</sup> By way of contrast, it is also why Russian rigidity in thought and action purchased victory in World War II at such an unacceptably high cost in human lives.

As in all military matters, however, there is more than one reason for defeat in training as well as in war. It may be that some of the tasks which the Army assigns to units at the CTCs are impossible — similar to what Lee demanded of Pickett at Gettysburg.<sup>26</sup> If history is a guide, frontal attacks of any kind will be avoided in future war.

With automated and centralized artillery fire direction, an enemy can easily destroy a task force that halts for extended periods in front of enemy positions in order to organize its assault. Together with modern attack helicopters and artillery or air-delivered scatterable mines, counterattacking mobile reserves can quickly devastate a task force that is compelled to halt in order to conduct a deliberate breach. This is not to say that it will be impossible to conduct offensive or defensive operations in the future, but that it will be increasingly difficult to do so in the same old ways.<sup>27</sup> Perhaps it is time to reevaluate the ways in which the Army goes about conducting deliberate attacks and defenses in the context of Army training. Perhaps unmanned aerial vehicles (UAVs) and attack helicopters should be employed in concert with rocket artillery to neutralize an enemy's static defensive positions while friendly air assault infantry and armored forces maneuver to the flanks and rear of enemy defenses with the object of destroying the enemy's mobile reserves.

When analysts study defeat in battle, misfortune stems less from the failure to deliberately plan every action and the influence of new technology than from a leadership failure to adapt to rapidly changing conditions.<sup>28</sup> Just as German concepts of *Blitzkrieg* provided the intellectual basis for developing AirLand Battle doctrine, U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-5, *Force XXI Operations*, has established important guideposts for comprehending how revolutionary military technol-

ogy can shape Army training. By encouraging the development of innovation and improvisation in the effort to train the force, American combat troops can be prepared in peacetime to make the most of opportunities which present themselves on the battlefield. This may be the most important enabling mechanism of all.

*It is in the minds of the commanders that the issue of battle is really decided.*

B. H. Liddell Hart<sup>29</sup>

In peacetime, the commander who makes the fewest mistakes is usually judged to be the best. In war, the commander who compels the opponent to make the most mistakes is usually victorious. If finding and developing leaders during prewar training who will excel in wartime is important, it follows that a field training environment which is conducive to the emergence of such people is critical. In the world of Force XXI, the task force commander must exercise judgment as part of the cognitive planning process and reclaim responsibility for decisionmaking that has been increasingly absorbed by battalion and brigade staffs. Responsibility for intelligence analysis and the disposition of attacking or defending forces cannot rest with specialized staff officers. Beyond these points, a new concept of command and control, one that acknowledges that technology inevitably diffuses authority, will have to take root.<sup>30</sup>

Today's computer simulations and war games are designed to foster the development of leadership attributes that enhance decisionmaking. Yet, the real world may turn out to differ dramatically from a familiar cyberworld in which information and warfighting systems are nearly always accurate and effective. This problem is not new. General Patton, like General Marshall, deplored the lack of realism in maneuver training. Patton's critique of field maneuvers in Hawaii during 1935 castigated the participants for overreliance on "wire for reports from the front for information" and for the commanders' reliance on the details of planning guidance "rather than to think."<sup>31</sup>

During the interwar period, virtually all of the victorious armies of World War I experienced similar trends in thinking about future war. The French General Staff frequently relied on the outcomes of war games that were designed to demonstrate the superiority of French tactics and equipment in order to rationalize decisions concerning force structure and officer promotion. After his release from captivity, the British commander of Singapore, Lieutenant General A. E. Percival, explained his reluctance to employ his ground reserve against the rapidly advancing Japanese in 1942 by referring to his experience on exercises in England before the war: "I had learnt on exercises we had held in England not to commit your reserve until you are quite certain you are dealing with the real thing."<sup>32</sup> Unfortunately for Percival, the Japanese attack was the real thing.

Percival was physically brave, physically fit and a first-class staff officer. He was unassuming, considerate and conciliatory, with a penetrating mind. Until the Singapore disaster, Percival had enjoyed a brilliant career. But Percival was not a commander who would run risks, so he could not imagine that a potential enemy commander would do so. After the fall of Singapore to a Japanese force that was smaller than the British defending force, the view was expressed to Field Marshal Alan Brooke, the new chief of the Imperial General Staff, that “officers were being promoted to high command because they were proficient in staff work — which was quite wrong — and urged that fewer mistakes of this nature should be made in the future.”<sup>33</sup>

Percival, like so many others in British, French and American uniforms, had never demonstrated any divergence from the norms of the organizations that had educated and promoted them. And like so many other generals in the opening phases of a war, when the fog of war greatly reduced information about the movements and intentions of Japanese forces, Percival sought reassurance through centralization of command and control. Percival said: “I felt that the time had now come to exercise more direct personal control of the operations.”<sup>34</sup> This was the worst possible course of action that Percival could have chosen, but one that is frequently popular in peacetime.

Reflecting on his World War I experience, General Fuller warned, “There are plenty of small-minded men who, in time of peace, excel in detail, are inexorable in matters of equipment and drill, and perpetually interfere with the work of their subordinates. . . . When war arises, the small minds, worn out by attention to trifles, are incapable of effort, and fail miserably.”<sup>35</sup> S.L.A. Marshal summed it up more succinctly: “60 percent of the art of command is the ability to anticipate; 40 percent of the art of command is the ability to improvise, to reject the preconceived idea that has been tested and proved wrong in the crucible of operations.”<sup>36</sup>

All of this may seem a lot to ask in the post-Cold War environment. When speculating about the performance of new technology in a future war, the challenge is even more daunting. Because technology is developing so rapidly, it is hazardous to assume too much about the details of possible future threats. However, priority must be given to the development of adaptive leaders who will utilize the fruits of revolutionary changes in the technology of war. Ground forces must gain an appreciation for the lethality of the Army’s aviation warfighting systems as well as aviation’s ability to quickly collect and disseminate valuable intelligence. To capitalize on their “lightness” in a future war, the Army’s light infantry will require much greater mobility in order to remain both lethal and survivable. In some ways, air assault infantry has the potential to exploit depth on the Force XXI battlefield on a scale that is reminiscent of the tank’s impact on warfare in the first part of the 20th century. Without mobility as a means of protection and attack, the strategic virtues of “lightness” become tactical liabilities on the high-tech battlefield of Force XXI.

Logic also suggests that immobilizing the M1A1 tank in dug-in positions robs the armored force of the revolutionary impact of accurate and devastating fire on the move. Relatively inexpensive, terminally-guided weapon systems linked to UAVs and other forms of surveillance technology make static defenses of the type currently practiced in training extremely dangerous on a future battlefield. Commanders will have to learn to exploit depth and employ mobile reserves. The principle of mass will have to be modified to include massing the effects of fires without massing troops and equipment in confined areas. Whatever the difficulties, leaders must begin to cope with new technology. Commanders who can creatively employ an all-arms force against an enemy that has access to similar technology will win the next war. The military-technical revolution has begun and the CTC experience will have to illustrate its possibilities.

***The modern army commander must free himself from routine methods and show a comprehensive grasp of technical matters, for he must be in a position continually to adapt his ideas of warfare to the facts and possibilities of the moment. If circumstances require it, he must be able to turn the whole structure of his thinking inside out!***

Field Marshal Erwin Rommel<sup>37</sup>

Looking to the future, Russell Weigley in the epilogue to *Eisenhower's Lieutenants* urged the U.S. Army's postwar leadership not to depend in the future on the preponderance of material resources that carried the U.S. Army through to victory in World War II. Having sketched a pattern of unimaginative and cautious generalship, and commitment to head-on assault in an American Army shaped for mobility, Weigley concluded his work with these words:

There is a British military aphorism that he who has not fought the Germans does not know war. The American Army has fought the Germans twice; does it, at last, know war? Has it drawn from its experiences the clarity of conception and doctrine, the tactical and technical skill, that made the prowess of the Germans a byword and enabled the German army twice in the twentieth century to hold the world at bay?<sup>38</sup>

Anyone who has taken the trouble to read FM 100-5, *Operations*, must conclude that the U.S. Army does know war. The U.S. Army's warfighting doctrine reflects the nature of modern warfare. In terms of doctrine and equipment, the contemporary U.S. Army is optimally equipped for combat in the fluid and demanding environment of future conflict. Nowhere was this fact more in evidence than in the Gulf War.

Setting aside these observations, political decisions concerning defense spending and force structure, plus unfolding international events that are beyond Washington's control and influence, will shape American military options and missions in ways we do not fully know. To a greater extent now than at any other point in the past fifty years, technology will define American military capabilities. Nevertheless, technology will not work all the

time and technology will not compensate for timid, uninspired leadership on the battlefield. While the intelligence community will work to develop more predictive intelligence with sophisticated means of interpreting imagery, the fog of war will persist. For this reason, the outcome of any future conflict will be determined by the human potential represented by the Army's leaders at the battalion, company, platoon and yes, even aircraft, tank commander and squad/fire team leader levels.

These comments notwithstanding, reorienting the training focus away from preparation to fight a set-piece battle will require great professional finesse at the Army's training centers. The defense strategy of the future calls for a leaner force structure in a high state of readiness to respond to attacks on American and allied interests by enemies equipped with both industrial-age and information-age military technology. Tactical concepts for the employment of attack aviation, airmobile infantry and armored forces will have to be flexible enough for the conduct of combat operations in cities, mountains or where the environment is simply different from past experience.

Still, one cannot suddenly tell soldiers, who, for a generation, have been exhorted to prepare for a confrontation with a Warsaw Pact enemy on a battlefield structured for defense, that abbreviated planning procedures geared for rapid offensive operations in a more fluid operational environment must supplant the lengthy, deliberate planning process at the battalion and brigade levels. Great resistance will be encountered among those who feel comfortable with a checklist approach to all training. Checklists are essential in periods of great stress or fatigue, but checklists cannot provide the expected levels of sheer personal proficiency.<sup>39</sup> General officers will have to play an increasingly greater role in the development of CTC scenarios to guarantee that immobility and rigid adherence to pattern are avoided in CTC training. The Army's leaders are competent and utterly dedicated to their profession, but too many leaders have become accustomed to a systematic approach to war. Training to fight set-piece battles is not a prescription for success. To some extent, these points help to explain what Napoleon meant when he said that he never had a plan of operations!<sup>40</sup>

The notion that the mark of a successful commander is the ability to adapt rapidly to constantly changing conditions on the battlefield rather than proficiency as a planner will also have to be carefully considered in the selection process for battalion and brigade command. This is especially important in peacetime when the necessity for maintaining discipline tends to encourage highly centralized control and to discourage independent action by subordinates. When officers are advanced on the basis of their demonstrated ability to carry out detailed orders and to tightly control their units, the selection system risks advancing leaders who, like General McClellan in the Civil War, have mastered the "process" but cannot execute. In fact, the mental facility to accept change in war and to think through its tactical implications will be among the key determinants of a commander's ability to win in a future battle. The commander who can continuously diagnose the situation, improvise and quickly adapt will achieve more frequent success in war than the commander who holds rigidly to a detailed, carefully rehearsed plan.

An argument could be made in this context for the more direct application of superior combat power when the U.S. Army had enough resources to exhaust the enemy's forces in a slow, deliberate head-on assault. Today it cannot. More than ever, the Army must develop leaders who can exploit mobility and technology on behalf of a consistent strategy of indirect approach. Leaders will have to learn in peacetime what General T. J. "Stonewall" Jackson insisted was true in battle: "There is a power in war more potent than mere numbers."<sup>41</sup>

By applying the implications of the Force XXI vision to the preparation of the Army's combat elements in training, the U.S. Army will prevent a Kasserine-style defeat from occurring in the next war because of an emerging generation of leaders who will be ready to take advantage of opportunities, to outpace the enemy and to attack simultaneously from multiple directions. Such an atmosphere will encourage the bold risk-taking and offensive spirit that General Don Starry, Major General Holder, Brigadier General Wass de Czege and so many others have worked so hard to infuse into doctrinal thinking.

Likewise, the key for the U.S. Army is to exercise judgment and wisdom in how it structures future training. It is still much wiser to evolve the existing structure to a framework supportive of future needs than to simply devolve from what exists. The proposed reorientation is attitudinal, not material. The prime focus is still warfighting. Like the new version of FM 100-5, the Army training programs and centers must retain the best features of the current structure and embrace the changes that reflect Army thinking in a new, strategic era.

## ENDNOTES

1. Lt. Gen. Frederic J. Brown, USA (Ret), *The U.S. Army in Transition II: Landpower in the Information Age* (New York: Brassey's U.S., Inc., 1993), p. 118.
2. Gen. Paul F. Gorman, USA (Ret.), "The Secret of Future Victories," *IDA Paper P-2653* (Alexandria, Va.: Institute for Defense Analysis, 1992), pp. III-1 through III-42.
3. Gen. Waldemar Erfurth, *Surprise*, translated by Stefan Possony and Daniel Vilfroy, 1943, reprinted in *Roots of Strategy, Book 3* (Harrisburg, Pa.: Stackpole Books, 1991), p. 387.
4. Trevor N. Dupuy, *The Military Life of Napoleon* (New York: Franklin Watts, Inc., 1969), pp. 198-199.
5. Warren Bennis, *Why Leaders Can't Lead? The Unconscious Conspiracy Continues* (San Francisco, Calif.: Jossey-Bass Publishers, 1990), p. 98.
6. Col. G. F. R. Henderson, *Stonewall Jackson and the American Civil War* (London, UK: Longman's, Green and Co., 1955), p. 341.
7. Robert B. Asprey, *The German High Command at War: Hindenburg and Ludendorff Conduct World War I* (New York: Quill William Morrow, 1991), p. 246.
8. Martin van Crefeld, *The Transformation of War* (New York: MacMillan, 1991), pp. 433-39.
9. Maj. Gen. Ernest Harmon, "Notes on Combat Experience During the Tunisian and African Campaigns" *Report to the Chief of Staff, Army*, Fall 1943, p. 18.
10. Capt. Jeffrey Stowe, "The Immediate Attack and the Attack of Opportunity," *Armor*, March-April 1994, p. 45.
11. Generalfeldmarschall Graf Helmuth von Moltke, *Ausgewahlte Werke I. Feldheer und Kriegsmeister* (Berlin, 1925), p. 74
12. Martin Blumenson, *Kasserine Pass* (Boston, Mass.: Houghton Mifflin, Co., 1967), p. 123.
13. David Eisenhower, *Eisenhower: At War 1943-1945* (New York: Random House, 1986), pp. 207, 539, 564.

14. Elliot Cohen and John Gooch, *Military Misfortunes: The Anatomy of Failure in War* (New York: The Free Press, 1990), p. 215.
15. B. H. Liddel Hart, editor, *The Rommel Papers* (New York: Harcourt, Brace and Co., 1953), p. 184.
16. Hans von Luck, *Gefangener Meiner Zeit: Ein Stueck Weges mit Rommel* (Bonn, Germany: E.S. Mittler & Sohn, 1991), pp. 213-220. This was emphasized to the author in lengthy discussion with Col. von Luck.
17. James Hunt and John Blair, editors, *Leadership on the Future Battlefield* (New York: Pergamon-Brassey's, 1988), pp. 2-6.
18. Maj. Gen. J.F.C. Fuller, *Armored Warfare* (Westport, Conn.: Greenwood Press, 1942), p. 9.
19. Maj. John F. Antal and Lt. Col. Lee R. Barnes, Jr., "The Emperor's New Clothes," *Armor*, Jan-Feb 1993, pp. 39-43. Also see James Kahan, D. Robert Worley, Cathleen Stasz, "Understanding Commanders' Information Needs," *Rand Report R-3761-A*, June 1989, pp. 2-6.
20. Dr. Christopher Gabel, *The 4th Armored Division in the Encirclement of Nancy* (Leavenworth, Kans.: Combat Studies Institute, 1986), p. 5.
21. Gorman, "The Secret of Future Victories," p. I-23.
22. Brig. Gen. John Ryneska, Battle Command Training Program Briefing, Fort Leavenworth, Kans., February 1994.
23. Henderson, *Stonewall Jackson*, pp. 174-175.
24. Liddel Hart, *The Rommel Papers*, p. 185.
25. Len Deighton, *Blitzkrieg: From the Rise of Hitler to the Fall of Dunkirk* (New York: Ballantine Books, 1980), p. 152.
26. Col. Richard J. Dunn III, "From Gettysburg to the Gulf and Beyond: Coping With Revolutionary Technological Change in Land Warfare," *McNair Paper No. 13* (Washington, D.C.: Institute for National Strategic Studies, 1991), p. 36.
27. *Ibid.*, p. 37. Also see Daniel Goure, "Is There a Military-Technical Revolution in America's Future?", *The Washington Quarterly*, Autumn 1993, pp. 174-192.
28. Cohen and Gooch, *Military Misfortunes*, p. 161.

29. General D'Arnee Andre Beaufre, "Liddell Hart and the French Army, 1919-1939," *The Theory and Practice of War*, edited by Michael Howard (Bloomington, Ind.: Indiana University Press, 1975), pp. 138-139.
30. Elliot A. Cohen, "The Mystique of U.S. Air Power," *Foreign Affairs*, Jan-Feb 1994, p. 118.
31. Martin Blumenson, *The Patton Papers 1885-1940*, Vol. I (Boston, Mass.: Houghton Mifflin Co., 1974), p. 910.
32. Keith Simpson, "Percival" in John Keegan, editor, *Churchill's Generals* (New York: Grove Atlantic, 1991), p. 269.
33. *Ibid.*, p. 259.
34. *Ibid.*, p. 267.
35. Maj. Gen. J.F.C. Fuller, *Generalship: Its Diseases and Their Cure* (Harrisburg, Pa.: Military Service Publishing Co., 1936), pp. 32-33. Fuller is actually quoting the Austrian Archduke Charles in this context. Also see Norman Dixon, *On the Psychology of Military Incompetence* (New York: Basic Books, Inc., 1976), p. 167.
36. S. L. A. Marshall, *Men Against Fire* (Glouster, Mass.: Peter Smith, Publisher, 1978), p. 108.
37. Erwin Rommel, *The Rommel Papers*, ed. D. H. Liddell Hart, trans. Paul Findlay (New York: Harcourt Brace, 1953), p. 204.
38. Russel F. Weigley, *Eisenhower's Lieutenants: The Campaign of France and Germany 1944-1945* (Bloomington, Ind.: Indiana University Press, 1970), p. 730.
39. Brown, *The U.S. Army in Transition II*, p. 116.
40. MG Hugo Baron von Feytag-Loringhoven, *The Power of Personality in War*, reprinted in *Roots of Strategy, Book 3*, p. 272.
41. Henderson, *Stonewall Jackson*, p. 319.