LOGISTICS IMPLICATIONS OF MANEUVER WARFARE

VOLUME 1: INTRODUCTION

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PREFACE

As part of its FY87 independent research and development program, the Logistics Management Institute (LMI) examined the logistics implications of a new maneuver-oriented operational concept – AirLand Battle – being adopted by the U.S. Army.

LMI undertook this study for three reasons. First, even though more than 5 years have passed since AirLand Battle was promulgated as formal Army doctrine, misperceptions and uncertainties about its execution still exist. Second, neither the Army nor the Defense community has yet developed a good understanding of the implications and ramifications of AirLand Battle. Third, and most important, the combat service support requirements, which largely determine the extent to which AirLand Battle doctrine can be executed, are not well defined or understood.

The results of this study are presented in six volumes. This volume, Volume 1, sets the stage for the examination of AirLand Battle doctrine and lays out the focus and scope of the study; Volume 2 reviews NATO's defense posture, including operational concepts and capabilities; Volume 3 describes the military command structure, operational concepts, and capabilities of the Soviet Union; Volume 4 summarizes the various arms control negotiations that have taken place between East and West to solve NATO's security problem peacefully; Volume 5 illustrates the need for NATO to shift toward a maneuver-oriented defense concept, analogous to AirLand Battle doctrine, if it is to maintain a credible conventional defense; and Volume 6 details the specific logistics improvements that are required to support maneuver defense in a NATO environment. The material in these volumes is interrelated so the reader is cautioned not to interpret individual volumes as stand-alone documents.

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LOGISTICS IMPLICATIONS OF MANEUVER WARFARE

VOLUME 1: INTRODUCTION

This volume presents an introduction to our examination into the logistics implications of AirLand Battle. It addresses the background of AirLand Battle, the focus and scope of our examination, and the rationale for using a conventional war in Europe as a vehicle for assessing the logistics implications of AirLand Battle.

BACKGROUND

In 1982, the U.S. Army adopted a new warfighting doctrine, AirLand Battle, in recognition of the close relationship between air and ground operations on the modern battlefield. Compared to the Army's previous doctrine – Active Defense – the new doctrine places much greater emphasis on maneuver. Other changes stand out:

- *Shift in tone and emphasis.* AirLand Battle adopts an offensive spirit (seizing and retaining the initiative even in defensive operations) in lieu of the defensive, if not passive, outlook of Active Defense.
- *Change in scope.* AirLand Battle recognizes the need to exploit depth in operations (the "extended battlefield") and to synchronize the deep, close-in, and rear battles, whereas Active Defense concentrated only on the main, close-in battle.
- *Change in focus.* AirLand Battle, worldwide in scope, applies to different kinds of war, from low- to high-intensity warfare, including the use of nuclear and chemical weapons (the "integrated battlefield"); Active Defense focused on the European theater.
- *Change in scale.* AirLand Battle raises the operational level of war by planning and conducting campaigns or major operations at army level, rather than winning battles and engagements at division level and below.

These doctrinal changes are clearly fundamental, not cosmetic. They have a significant impact on logistics support that, conceptually, may be characterized in two ways. First, providing logistics support to combat units will become more difficult: the highly mobile, independently operating army units will require large quantities of fuel, ammunition, spare parts, and other support to sustain combat

operations. Second, providing responsive logistics support will become more critical: AirLand Battle tactics such as deep attack by ground maneuver forces are risky and depend on good intelligence, command and control, communications, and leadership, but their success or failure will be determined primarily by the adequacy of logistics support.

The U.S. Army has recently begun to examine whether and how AirLand Battle doctrine would be logistically supportable in wartime. Many observers believe that dramatic changes in logistics structure, procedures, and capabilities may be necessary. Furthermore, serious questions have been raised about the affordability, both in personnel (force structure) and procurement dollars, of the logistics improvements needed to support AirLand Battle, given the peacetime constraints on the Defense budget.

The purpose of this examination is to develop a better insight into the logistics implications of the AirLand Battle doctrine, to identify the key problems in logistics support, and to explore possible directions for their resolution.

FOCUS AND SCOPE

The fundamental point of departure for this examination is the close interrelationship between strategy, tactics, and logistics. The late Admiral Henry Eccles, a recognized authority on military logistics, defined this interrelationship as follows:

> Strategy deals with the determination of objectives and the broad methods for their attainment; Logistics deals with the creation and sustained support of weapons and combat forces; Tactics deals with the specific employment of weapons and forces toward the attainment of the objectives of strategy. Or, stated somewhat more simply: Strategy and Tactics provide the schemes for the conduct of military operations; Logistics provides the means therefore.[1]

General John R. Galvin, who replaced General Bernard Rogers as Supreme Allied Commander Europe (SACEUR) in June 1987, described this interrelationship at the field level as follows:

> With our exploding world of technology, it is even more necessary for the tactician to be a logistician. He who carries the saber must also carry a wrench. The equation works the other way too: The logistician must be a tactician with a keen ability to sense the flow of the battle.... Logistics

[1]Henry E. Eccles, *Logistics in the National Defense*, Harrisburg, Penn.; The Stackpole Company, 1959.

> units are going to be doing more fighting and maneuver units more self-help logistics than ever before. . . . Logistics affect the tempo, the rhythm of battle. A logistics advantage tips the scales. . . . Good tacticians have always been sensitive to their own – and the enemy's – logistics situation.[2]

Given this interrelationship, we focus on the changes in logistics support mandated by changes in tactical doctrine. The following comments on doctrine, logistics, and scenario explain and delineate that focus.

Doctrine

AirLand Battle became formal Army doctrine with the 1982 edition of Field Manual (FM) 100-5, *Operations*. As the Army's keystone warfighting manual, FM 100-5 provides the authoritative foundation for subordinate doctrine, force design, materiel acquisition, professional education, and individual and unit training. Thus, FM 100-5 dictates the way the Army organizes, equips, and trains its forces; it also expresses the way the Army intends to fight in any battle environment. While the latest version of the manual (1986) includes a chapter on sustainment planning and execution, that guidance is very general.

The counterpart to the Army's how-to-fight manuals is the Army's series of how-to-support manuals, with FM 100-10, *Combat Service Support*, the lead manual. That manual was updated in 1983 to reflect the change in warfighting doctrine; another major rewrite was published in February 1988. Subordinate, more detailed doctrine is provided in the 63-series manuals pertaining to combat service support operations at specific echelons of the theater army: Separate Brigade (FM 63-1), Division (FM 63-2), Corps (FM 63-3), and Theater Army (FM 63-5). (With the disestablishment in 1973 of the Field Army as a tactical echelon, there is no FM 63-4.) All of these manuals have been updated in accordance with AirLand Battle doctrine; they describe the organization of combat service support and the functions, operations, and command relationships of the combat service support organizations at each tactical echelon.

Logistics

Combat service support consists of a wide range of services, including logistics. Even though the term "logistics" has an extensive history, it is still defined and

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[2]LTG John R. Galvin, "The VII Corps Commander Views Grass Roots Logistics," *Army Logistician*, Jul – Aug 1984.

interpreted in many different ways. Eccles' definition, "the art and science of creating and sustaining combat capability," is probably the most basic one. It also was adopted by the U.S. Air Force in its recent efforts to resurrect logistics doctrine to a position of more emphasis and influence; however, the Air Force substituted the term "combat support" for logistics because it traditionally interprets logistics as consisting solely of supply, maintenance, and transportation.

In contrast, the Army customarily applies a broader interpretation to logistics that includes field services as well as supply, maintenance, and transportation; it also considers logistics to be a subcategory of combat service support (the other subcategories being administrative and personnel support services, and health services).

The formal definition of logistics in DoD, however, is even broader than the above definition:

> The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations which deal with: a) design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; b) movement, evacuation, and hospitalization of personnel; c) acquisition or construction, maintenance, operation, and disposition of facilities; and d) acquisition or furnishing of services.[3]

As a result of this definition, logistics is often divided into two parts that are formally defined as production logistics and consumer logistics. Production logistics, which is also referred to as acquisition logistics, is defined as:

> That part of logistics concerning research, design, development, manufacture and acceptance of materiel. In consequence, production logistics includes: standardization and interoperability, contracting, quality assurance, initial provisioning, transportability, reliability and defect analysis, safety standards, specifications and production processes, trials and testing (including provision of necessary facilities), equipment documentation, configuration control and modifications.

Similarly, consumer logistics, a subset of which we will also refer to as operational logistics, is defined as:

> That part of logistics concerning reception of the initial product, storage, inspection, distribution, transport, maintenance (including repair

[3]Definitions of terms in this report, unless indicated otherwise, are from The Joint Chiefs of Staff (JCS), *Dictionary of Military and Associated Terms*, JCS Pub. 1, Washington, D.C.: U.S. Government Printing Office, 1 Jan 1986.

> and the serviceability), and disposal of materiel, and the provision of support and services. In consequence, consumer logistics includes: materiel requirements determination, follow-on support, stock control, provision or construction of facilities (excluding any materiel element and those facilities needed to support production logistics activities), movement control, codification, reliability and defect reporting, storage, transport and handling safety standards, and related training.

All of the logistics functions called out in the above definition may be necessary in peacetime and their enumeration may be useful for identifying the different functional organizations responsible for the management or provision of each function. In wartime, however, six logistics functions are key to the sustainment of military forces: *manning, arming, fueling, fixing,* and *transporting* the supported force, and *protecting* the sustainment system itself from attack. In our examination of the logistics implications of AirLand Battle, we emphasize these sustainment functions, although our coverage of manning is limited to that of logistics support units. By excluding the broader manning issues for the supported force, we do not intend to imply they are not important. On the contrary, they represent very critical areas. For example, General Glenn Otis, former Commander-in-Chief, U.S. Army, Europe, based on recent interviews, is known to be worried about running out of tank crews before running out of tanks in the event of a Soviet attack against NATO forces. Similarly, the combat service support mission area analysis, conducted by the Army's Training and Doctrine Command, rates health and personnel services among the most critical deficiencies.

Thus, we focus on *supply, maintenance,* and *transportation* in the theater army. Within this narrow interpretation of logistics, we stress the four classes of supply that are most critical to combat power: petroleum, oil, and lubricants or Class III; ammunition (Class V); repair parts (Class IX); and end items (Class VII). Under transportation, we include the forward movement of forces, materiel, and supplies along lines of communication from ports of debarkation in theater to combat zone destinations.

Scenario

Examining the logistics implications of a new warfighting doctrine depends upon many factors including theater of operations, kind of war, and war scenario. Any precise scenario, however, is a matter of pure speculation, not of prediction. Thus, we make several assumptions that define the context for, and boundaries of, our examination; within that context, we identify the key characteristics of plausible

scenarios that, in our judgment, would be decisive in assessing the logistics challenges posed by AirLand Battle doctrine. Those assumptions and inferences are presented in the next section.

FRAME OF REFERENCE

This section presents our rationale for focusing upon a conventional war in Europe within the next 10 years. It also provides our assumptions on the pace and extent of defense improvements in NATO that will influence, if not determine, the likelihood of such a war as well as its outcome.

Theater of Operations

We selected the European theater for three reasons. First, Soviet control of Europe would change the "correlation of forces" overwhelmingly in its favor at the expense of the United States. Even though Soviet armed aggression against NATO is unlikely, NATO's defense, if deterrence fails, remains the highest priority and most demanding mission for U.S. armed forces. Second, the concept of maneuver warfare as presented by AirLand Battle doctrine is particularly suited to the scale of mechanized warfare anticipated in a Warsaw Pact-NATO scenario, given the terrain conditions found in many areas of Central and Western Europe. Third, the theater provides the obligatory test case against which doctrine, force structure, and logistics support capabilities must be evaluated.

A war in Europe would probably involve more than one theater, either at the outset by Soviet design or as a result of "spill over" from one region to another or because the United States would respond on the basis of its "global war" or "horizontal escalation" strategy. We do not speculate here on the specific circumstances leading to such a war, nor on the specific theaters that might be involved beyond Europe. Within Europe, a Soviet offensive would certainly involve the NATO flanks, with the Northern Region most likely, but we focus on the Central Region because that is where the decisive campaigns and battles would be fought.

Kind of War

We assume that any plausible scenario would be limited to conventional, nonnuclear warfare. This assumption is based on many considerations that are seldom

acknowledged in public assessments. They include the Soviet threat, NATO's response, and the resulting implications.

Soviet Threat

Soviet military strategy emphasizes "deterrence by denial," or preventing the opponent's use of nuclear weapons, rather than "deterrence by punishment," which is retaliating after the opponent's attack. Since 1955, when the Soviet Union shifted to a nuclear warfighting strategy, it has been embarked on a vigorous effort to acquire the nuclear capabilities to support that strategy. Although it has never achieved a nuclear war-winning capability, it did achieve rough parity with the United States at the strategic level in 1969 and superiority over NATO at the theater (intermediate range) nuclear level in the mid-1970s. By thus denying escalation dominance to the West, the Soviet Union created the conditions favorable for a conventional offensive.

The implications of the change in nuclear balance are also reflected in Soviet writings on how a war with the United States would be conducted. The standard view through the mid-1960s was an all-out nuclear war from the outset with theater conventional warfare as a mopping-up operation after the strategic nuclear exchange. Beginning in 1965, however, the Soviet Union began to acknowledge openly the possibility of an initial conventional phase that would escalate to the use of nuclear weapons with little prospects of controlling the extent of escalation, thus reversing its previous view. Beginning in the late 1960s, the notion of general nuclear war has been increasingly challenged; and since the mid-1970s, Soviet political leaders have stressed the untoward consequences of nuclear war for mankind in general and for the spread of Soviet-style socialism in particular. At the same time, Soviet military authors argued that general nuclear war would be an unmitigated disaster for both sides.

Since the creation of NATO in 1949, the Soviet Union (including the Non-Soviet Warsaw Pact forces that are fully integrated into the Soviet military command structure) has had a significant numeric advantage in theater ground forces in Europe. The Warsaw Pact's initial disadvantage in theater air forces has gradually disappeared so that it now also possesses numeric superiority in tactical air forces. Even though NATO never sought, nor needed, to match Warsaw Pact conventional forces, the dramatic improvements in Soviet conventional capabilities over the past

10 years have created today's situation in which a Soviet conventional attack would represent a potent threat against Western security.

All indications are that the Soviet Union would prefer to keep its offensive conventional, though it would use its theater nuclear forces as soon as indications were received that NATO was about to escalate. Thus, we believe that the Soviet Union's declaratory policy of "no first use," announced first by General Secretary Brezhnev to the United Nations Special Session on Disarmament in 1982, must be viewed as a *contingent commitment*, with the burden of "first use" (or, operational preparation to do so) levied at NATO. This was clearly articulated in an authoritative article by former Defense Minister Ustinov on Brezhnev's initiative. In that article, besides calling for increased combat readiness, greater political control over unauthorized nuclear release, better command/control/communications/intelligence systems, and improved training as absolute requirements for implementing the "no first use" policy, the author provided the following veiled warning:

> Washington and the other NATO capitals should clearly realize that the Soviet Union, in renouncing the first use of nuclear weapons, is also denying the first use of nuclear weapons to all those who are hatching plans for a nuclear attack and calculating on a victory in a nuclear war. The state of the military potentials and military technological capabilities of the sides is such that the imperialist forces will not succeed in attaining military superiority either at the stage of preparations for nuclear war or at the moment when they try to start such a war.[4]

Between the nuclear and conventional levels, the Soviets also possess an impressive chemical warfare capability, both defensive and offensive, that far exceeds that of NATO. While the United States, the only NATO member with a sizable offensive chemical weapons capability, terminated production of these lethal chemical agents and munitions in 1969, the Soviet Union expanded its production and modernization of chemical weapons throughout the 1970s and 1980s. By 1985 it had a stockpile estimated at 20 to 50 times that of the United States, while most of the U.S. stockpile had become obsolete. More importantly, Warsaw Pact ground forces are organized, equipped, and trained to fight under chemical warfare conditions, while NATO forces are not. Chemical weapons, like nuclear weapons, are categorized as "weapons of mass destruction" by both Warsaw Pact and NATO so

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[4]Marshall D. F. Ustinov, "Rejecting the Threat of Nuclear War," *Pravda*, 12 Jul 1982, p. 4, cited in John Van Oudenaren, "Deterrence, War Fighting and Soviet Military Doctrine," *Adelphi Papers 210*, London: The International Institute for Strategic Studies, Summer 1986.

that their use is under control of political authorities, but such control is believed to be much tighter in NATO than in the Warsaw Pact. On the battlefield, however, nuclear weapons inflict massive attrition, whereas chemical weapons suppress combat effectiveness by impeding the maneuverability of the enemy's ground forces.

NATO Response

NATO's military strategy has gone through three phases while seeking a cost-effective response to the threat of Soviet expansionism to the West. Each successive phase exhibited an increase in emphasis on credible conventional defense capabilities and a constant search for flexibility of military options. In its first few years, 1949–1953, NATO strategy rested solidly on the strategic nuclear deterrent afforded by the sheer monopoly of the United States in atomic bombs and strategic bombers. (The first Soviet tests of an atomic bomb took place in 1949, those of a strategic bomber in 1955.) In that period, a token force (the "tripwire") deployed in West Germany was considered sufficient to ascertain intent and seriousness of any attack to be followed immediately by a strategic air strike and atomic devastation of the aggressor's homeland. This strategy was soon deemed too inflexible and in 1952 NATO began to consider in earnest the conventional forces required to halt a Soviet invasion. Those requirements soon were found to be infeasible so that NATO, in 1954, opted for a very modest conventional force reinforced by theater nuclear weapons and backed up by U.S. strategic weapons. The strategy was essentially a copy of the "new look" strategy adopted by the United States in 1952 that became known as "massive retaliation." The resulting infusion of nuclear weapons, including medium-range ballistic missiles, into European NATO countries in the late-1950s was designed to create a credible warfighting capability in the European theater to enhance NATO's deterrence without uncoupling its security from the U.S. strategic nuclear guarantee. NATO's near total reliance on nuclear weapons, however, soon became controversial, both among U.S. theater commanders and individual nations. In light of the Soviet hydrogen bomb in 1955, its intercontinental ballistic missile in 1957, a satellite in orbit in 1957, and emerging technology trends, by 1960, the United States concluded that the strategy of massive retaliation had become ineffective, lacked credibility, was too inflexible to counter Soviet force projection in areas other than Europe. Further, the strategy did not meet the ethical test of proportionality. The United States set out to formulate a better strategy, which ultimately became known as Flexible Response.

Flexible Response, first articulated in 1961 and adopted by NATO in 1967, remains NATO's strategy today. Flexible Response retains the concept of deterrence, but seeks to achieve deterrence through a credible warfighting capability based on a wide range of forces comprising a balanced mix of conventional, theater nuclear, and strategic nuclear weapons, permitting a flexible range of responses to any possible military aggression. Those responses are:

- Direct defense, at a level judged appropriate to defeating the attack, thus placing the burden of decision between escalating or terminating the conflict on the aggressor. This is NATO's first and preferred response.
- Deliberate escalation, if defense at the level first selected is not effective, including the possible first use of theater nuclear weapons before the cohesiveness of NATO's defense is lost by Soviet penetrations of forward defenses on a large scale. The aggressor must be convinced of NATO's readiness to escalate, but must be uncertain as to the timing and the circumstances in which theater nuclear weapons would be used.
- General, strategic nuclear response, the ultimate guarantor of NATO's deterrence.

The credibility and effectiveness of this strategy rest on two key points: NATO's capabilities at each rung of the escalation ladder from conventional through strategic nuclear, and the political will of the member states. On both points the strategy has been questioned in recent years as a result of the changing balance of forces.

At the strategic nuclear level, the key question was first posed in a public forum by former Secretary of State, Henry Kissinger when he expressed skepticism about the continued viability of "extended deterrence" because of Soviet strategic nuclear parity:

> [W]e must face the fact that it is absurd to base the strategy of the West on the credibility of the threat of mutual suicide. Therefore, I would say – which I might not say in office – the European allies should not keep asking us to multiply strategic assurances that we cannot possibly mean or,

> if we do mean, we should not want to execute, because if we execute we risk the destruction of civilization.[5]

Although it is clear that some form of extended deterrence will ultimately remain essential to Western security (as long as the Soviet Union possesses nuclear superiority over Western Europe alone), the message of Kissinger essentially was that overreliance on the U.S. strategic nuclear guarantee reduced the credibility of NATO's deterrence and that more credible nuclear options at theater level in combination with a stronger conventional defense were necessary to resurrect the strategy of Flexible Response.

At the theater nuclear level, the deterioration of the nuclear deterrent caused NATO to lose its capability of controlling the escalatory process prescribed by strategy, making the escalation option a desperate, not deliberate, act. NATO's "dual-track" decision in December 1979 was designed to return credibility to deliberate escalation either by the Soviets agreeing to limit their modernization of intermediate-range ballistic missiles or by the United States agreeing to field a comparable intermediate nuclear force in Europe. When negotiations between the Soviet Union and the United States failed, NATO began fielding an intermediate nuclear force (INF). Under the INF Treaty, signed in 1987 and ratified in 1988, those missiles and launchers will be removed on both sides over the next few years, but the treaty removes from NATO the most credible and militarily useful nuclear options whereas the Soviets can maintain the same threat and target coverage by retargetting a small portion of their strategic arsenal. In a strictly numeric sense, the treaty may have been favorable to NATO; but in a strategic sense, it reduces NATO's deterrence.

Another factor in this warfighting equation is that the political will to support a first use policy is rapidly declining. The response of political authorities in NATO countries to a request by SACEUR for nuclear release is in much doubt, especially if such a request is made early on to stall a conventional offensive with the knowledge that the Soviets most probably would respond in kind. In the last few years,

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[5]Quoted from Kissinger's speech to a conference of defense experts in Brussels as reported by Joseph Fitchett, in "Kissinger Cites Gaps in U.S. Nuclear Role." in the *International Herald Tribune*, 3 Sep 1979. For a sanitized version, see also Henry A. Kissinger, "The Future of NATO," *The Washington Quarterly*, Autumn 1979, pp. 3–17. The proceedings of the Brussels conference can be found in Kenneth A. Myers (ed.), *NATO – The Next Thirty Years*, Boulder, Colo.: Westview Press, 1980.

SACEUR has been quite vocal about NATO's conventional inferiority and the resulting need, in the event of a Soviet offensive, for NATO to proceed with deliberate escalation at an early stage of the conflict, "in days, not weeks," to prevent disintegration of NATO's forward defenses. This "early first use" is the crux of NATO's "nuclear dilemma." NATO clearly needs a nuclear capability to deter the Soviets from using their nuclear weapons first and as an economical means of forcing dispersion of Warsaw Pact troop concentration. But actual first use could set in motion a sequence of events with incalculable risks for both sides. Thus, even though early first use may be viewed as an irrational act, a declaration of "no first use" would be counterproductive because it undermines deterrence.

For example, one noted British general expressed his views on such a policy as follows:

> First use of nuclear weapons by NATO, when deterrence fails, is neither rational nor moral nor plausible. It is irrational because . . ., if the Soviets did no more than retaliate like for like, the Soviet advance, though held up temporarily, could fairly soon be resumed more effectively than before: nuclear war increases attrition and attrition favors the "big battalions." It is implausible because the decision to go nuclear requires concurrence of the heads of government of United States and principal states of Western Europe (. . . [any] suggestion that the United States might elect to go nuclear unilaterally on the European battlefield is implausible and mischievous in the highest degree). Such a decision would be hard and require time; many military officers in NATO are therefore tempted to assume that the idea of going nuclear, before the coherence of the defense has been irretrievably lost, is purest moonshine. It is also ethically perverse.[6]

Similar viewpoints have been advanced by reputable nuclear strategists. For example, Lawrence Freedman has made the following recommendation:

> What does make sense is for NATO to plan its military operations on the presumption that nuclear forces will not be used and should not be needed

Similarly, Morton Halperin has concluded that military use of nuclear weapons should be disavowed (except in extreme circumstances and then only for "demonstration" purposes) and has recommended the JCS be directed not to plan on

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[6]General Sir Hugh Beach, "On Improving NATO Strategy," in Andrew J. Pierre (ed.), *The Conventional Defense of Europe: New Technologies and New Strategies*, New York: Council on Foreign Relations, Inc., 1986.

[7]Lawrence Freedman, "U.S. Nuclear Weapons in Europe: Symbols, Strategy, and Force Structure," in Andrew J. Pierre (ed.), *Nuclear Weapons in Europe*, New York: Council on Foreign Relations, Inc., 1984.

using any nuclear weapons.[8] Even a conservative strategic thinker as Colin Gray considers nuclear escalation by NATO to defeat a Soviet conventional offensive as a "fictional option" that would surely backfire on the United States and NATO.[9] These viewpoints are reflected in a growing trend in Western Europe (with the notable exception of France) to perceive nuclear arms as a political instrument, not a militarily useful weapon. At the present time, there is still a majority within NATO that favors Flexible Response and leaving the conflict between first use policy and political will unresolved, but the votes for revising that strategy are growing. For example, some of the national associations affiliated to the Atlantic Treaty Association have concluded that Flexible Response has ceased to retain any credibility and needs to be replaced by another strategy,[10] and a variety of ideas are being discussed in different forums.[11] At the same time, however, this growing tension between "early first use" and *de facto* (though never acknowledged) self-deterrence has contributed to a NATO-wide consensus about the urgent need for conventional defense improvements to "raise the nuclear threshold" – a consensus that dates back to 1982, however with little vision or agreement on the crucial questions of "what" and "how."

NATO's response to the chemical warfare threat principally has been to ignore it. Both the United States and NATO have a declared policy of no first use of chemical weapons, but have reserved the right to retaliate after the enemy's first use. That policy, however, depends on a retaliatory capability which NATO does not possess. Instead, by threatening nuclear response, NATO has always assumed it would deter Soviet first use of chemical weapons. In spite of repeated warnings,

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[8]Morton H. Halperin, *Nuclear Fallacy: Dispelling the Myth of Nuclear Strategy* (Cambridge: Ballinger, 1987). This extends the author's long-held views on the subject dating back to the early 1960s. See also "A Proposal for a Ban on the First Use of Nuclear Weapons," *Journal of Arms Control*, Vol. 1., No. 2., 1963, pp. 112–123.

[9]Colin S. Gray, *Maritime Strategy, Geopolitics, and the Defense of the West* (New York: National Strategy Information Center, 1986).

[10]For example, see *Diminishing the Nuclear Threat: NATO's Defense and New Technology* (London: The British Atlantic Committee, 1984).

[11]For a thoughtful discussion of the entire matter, see: Stanley R. Sloan, *NATO's Future: Toward a New Transatlantic Bargain* (Washington, D.C.: National Defense University Press, 1985). The most recent discussion in the United States on future NATO strategy was the symposium, "The Future of Conventional Defense Improvements in NATO," National Defense University, Washington, D.C. 26–27 Mar 1987 (Presentations were made by policy-level officials on a nonattribution basis, with no publication planned.)

starting in the late-1970s, about the lack of a chemical warfare deterrent, the U.S. Congress did not authorize DoD to proceed with a chemical weapons modernization program until FY86. That program combines the disposal of all existing unitary chemical weapons by 1994, production of modern binary chemical weapons, development of a binary chemical warhead for the multiple-launch rocket system, and research on more effective, longer range delivery means for deep attack. The program is intended to provide a military useful retaliatory capability which, although much smaller than the current obsolete stockpile, will be more credible, thus more effective to deter Soviet use of chemical weapons. There are some doubts, however, how effective this deterrent would be if the Soviets decided on an invasion of Western Europe.

The cardinal question from the Soviet perspective is who would suffer most from chemical exchange, either locally or on a larger scale. The answer is pretty clear. Because Warsaw Pact ground forces are better equipped, organized, and trained to fight under chemical warfare conditions, they will suffer less from chemical retaliation by NATO than NATO's ground forces will from Soviet first use. Neither NATO nor the United States has come to grips with this issue and current plans for chemical defense improvements are only a small part of what needs to be done.[12]

At the conventional level, NATO's quantitative inferiority in the past was largely compensated for by its qualitative superiority, but this advantage has now eroded with the steady and purposeful modernization and buildup of conventional forces by the Warsaw Pact that started in the late-1960s. NATO's past preoccupation with nuclear deterrence has caused it to neglect the conventional warfighting capabilities that are part and parcel of any credible deterrence; it has exhibited a lack of political will to take decisive action in response to the changing balance of forces; and its exclusive focus on preventing war has now created a window of opportunity for the Soviet Union.

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[12]For further details, see the following sources: *Report of the President's Chemical Warfare Review Commission*, 1985; Hearings on the House of Representatives Bill 1872, DoD Authorization of Appropriations for Fiscal Year 1986, Title I, House Armed Services Committee, 99th Congress, 1st Session, 21 Mar 1985 pp. 1051 – 1136; Macha Levinson, "Chemical Deterrence - Will It Work?", *International Defense Review* No. 6/1986, pp. 731 – 740; David Segal, "The Soviet Union's Mighty Chemical Warfare Machine," *Army*, Aug 1987; and J. P. Perry Robinson, "Chemical Weapons and Europe," *Survival*, Jan/Feb 1982, pp. 9 – 18.

Implications

In view of the above considerations on the Soviet threat and NATO's response, we assume that a Warsaw Pact-NATO war would begin conventionally. We also assume that release of nuclear weapons, down to battlefield nuclear munitions, would remain under tight political control on both sides, and that each side would be self-deterred from using them, in the full realization that escalation by either side could, and probably would, rapidly lead to the general nuclear war that both sides seek to avoid. Whether these assumptions are realistic, nobody knows because a war has never been fought on the "integrated" battlefield, with both sides possessing nuclear, chemical, and conventional weapons in abundance. It may be unrealistic if the Soviet offensive becomes bogged down and the two sides are not able to initiate negotiations quickly enough before escalation occurs on both sides. We also assume that such war-termination negotiations would entail either side retaining control over territory gained in offensive or counteroffensive operations so that international borders and the composition of each bloc would not necessarily return to the status quo ante – an assumption that conflicts with official NATO policy, but conforms to the views of defense experts in the West.[13]

Time and Conditions

We focus on the next 10 years, for several reasons. First, AirLand Battle is the Army's doctrine for today and the 1990s. By the year 2000, that doctrine will be superseded by "Army 21" (previously known as "AirLand Battle 2000") which seeks to exploit future technology to achieve what AirLand Battle is designed to achieve today through ground maneuver and offensive air support using current weapons systems. Army 21 will build on AirLand Battle and further increase the emphasis on agility, deception, and maneuver as the U.S. Army's evolving style of fighting war, with *fluidity of combat* the key notion for the future battlefield.

Second, dynamic changes in East-West relations, the emergence of other power centers, the technology of conventional warfare, and the general drift from offensive to defensive strategic nuclear posture by both superpowers will have fundamental implications for both the probability and scenario of Soviet armed aggression against

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[13]A consensus of opinion expressed at the 1985 Annual Conference of the International Institute for Strategic Studies; see: Dr. Robert O'Neill, "Summing-Up," *Power and Policy: Doctrine, the Alliance and Arms Control*, Part III, *Adelphi Papers 207*, London: International Institute for Strategic Studies, Spring 1986.

the West. But, it is difficult if not impossible to anticipate what those changes and their implications will be, especially in the long term. Even within the next 10 years, the only realistic conclusion is one of much uncertainty, with prudence mandating consideration of worst-case conditions.

Third, changes in the force balance have weakened NATO's deterrence so that, in the opinion of many observers, the possibility of Soviet armed aggression is greater than it has been in the past 25 years. The reasons include the parity in strategic nuclear capabilities and the impact of the INF Treaty on NATO's nuclear deterrence; the Warsaw Pact's steady buildup of conventional capabilities contrasted with NATO's slow pace and limited prospects of conventional defense improvements; and the failure of the conventional arms control negotiations to produce the asymmetrical force reductions needed to reduce the likelihood of war. Even though the Soviets generally are believed to prefer achieving their long-held objectives in Europe – disintegration of NATO, removal of U.S. forces, and control over at least West Germany – through "peaceful" means, their military capabilities are ultimately more important than their political intent: capabilities are certain whereas intentions may change overnight. Once Soviet leadership arrives at the conclusion that the potential gains from armed aggression outweigh the potential risks, conditions can be expected to evolve to a situation where armed conflict is perceived as unavoidable. That NATO's deterrence has declined is not in dispute; where it exactly stands today is assessed differently by the experts, though most agree it may evaporate within the next 10 years unless NATO proceeds with its theater nuclear force modernization program and implements significant improvements in conventional defense. NATO's ability or political resolve to do so, however, is in much doubt.

With regard to the conditions that might trigger a war, speculations range from a limited "land grab" as a means of testing NATO resolve to the "inevitable" war resulting from ideological conflict. Between these two extremes, any combination of crisis conditions elsewhere in the world and political turmoil on either or both sides can easily be imagined to get out of control and motivate Soviet leadership to proceed at short notice with an invasion of Western Europe. History has taught us that wars defy logic. World War I is probably the best illustration of how a combination of insignificant events, misinterpretations, and irrevocable actions led to a large-scale war that none of the participants intended. Though in retrospect

historians may seek to explain the causes of war through sophisticated theories and analysis, the simple fact is that wars happen because they happen. This is not a fatalistic notion, but a realistic appraisal of the limits of deterrence theory: it cannot be used to compensate for errors in foreign policy; it ignores motivational factors; and it applies primarily at the strategic level but becomes increasingly difficult or unworkable with lower levels of conflict. *Whether* NATO's deterrence fails will be determined by the Soviet Union's assessment of the controllability of its risks. *How* it would fail will be determined by its assessment of the commitment of the major NATO member nations to NATO's defense.[14]

Strategic Warning, Bloc Cohesion, and Force Balance

Among the many imponderables that would influence the outcome of a conventional war in Europe, three factors are singled out for examination here because they would determine the type of scenario: strategic warning, bloc cohesion, and the force balance between the two sides.

Strategic warning, i.e., NATO intelligence on Soviet intent and preparations for launching an attack, is important to NATO because so much of its defense capability depends on reinforcements and mobilization of reserve forces. Although no war in history has been fought without strategic warning, the Soviets would try to minimize any warning through deception and cover. Moreover, if one believes the Soviet Union has no grand plan to invade Western Europe, any accidental war that did occur would, by definition, come with little or no strategic warning. NATO counts on no surprise, however. We assume it is more realistic to expect a situation for which intelligence data are ambiguous enough for most NATO nations to remain undecided about mobilizing until the last few days before the offensive occurs.

Bloc cohesion, which is the solidarity among the member nations of each bloc in wartime, is the second factor rated next in importance to strategic warning. Each side has speculated about the potential wartime unreliability of certain countries in the opposing bloc. For example, the West traditionally has questioned the reliability of certain non-Soviet Warsaw Pact countries, particularly if the offensive becomes bogged down. The available indications, however, are that both the capability and reliability of the military forces of those countries have been underestimated in the

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[14]See: Alexander L. George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974).

West.[15] Furthermore, as long as NATO's official strategy prohibits the taking of Warsaw Pact territory in a deep counteroffensive, those countries have little incentive to engage in general uprisings and revolt against the Soviets: such lack of loyalty would be immediately and severely punished.

Similarly, the East traditionally has questioned the reliability of certain European NATO countries under the stress of Soviet intimidation or armed aggression. Their assumption appears to be that the NATO alliance would disintegrate, with certain countries deciding not to participate in NATO's defense either under the threat of occupation once the offensive begins or through intimidation in advance of the offensive.[16]

We believe that both of the above speculations are naive and self-serving. We assume, for the purposes of our study, that the cohesion of each bloc will persist in wartime.

The conventional force balance in NATO's Central Region at the outset of this war is determined by the assumptions of lack of warning and bloc cohesion and today's force deployments and readiness. To minimize strategic warning, we assume the Soviet Union would limit mobilization to 10 days and generate the maximum force that it could deploy in that period, including East Germany. Czechoslovakia, and Poland. We also assume that NATO member nations would begin mobilizing at various stages, with all nations committed to the defense of the Central Region (including France) in mobilization 1 week later. The resulting force balance differs from the more traditional force balance assessments that tend to compare Warsaw Pact versus NATO totals under varying assumptions.[17] In the aftermath of the INF Treaty, public attention has refocused on the conventional force balance and various

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[15]See: Simon Jeffrey, *Warsaw Pact Forces: Problems of Command and Control* (Boulder, Colo.: Western Press, 1985).

[16]See: Jan Sejna, *We Will Bury You* (London: Sidgwick and Jackson, 1982).

[17]NATO Secretary General, *NATO and the Warsaw Pact: Force Comparisons*. Brussels: NATO Information Service, 1984; Secretary of Defense, *Soviet Military Power*, Washington, D.C.: U.S. Government Printing Office, 1988; International Institute for Strategic Studies (IISS), *The Military Balance 1987–1988*. London: IISS, 1987; and Congressional Budget Office, *U.S. Ground Forces and the Conventional Balance in Europe*, Washington, D.C.: U.S. Government Printing Office, 1988.

recent studies show that those traditional assessments are either meaningless, misleading, or flawed[18] – conclusions to which we fully subscribe.

INFERENCES

Summarizing the thoughts and assumptions about a Warsaw Pact-NATO conflict, we draw the following inferences for the characteristics of plausible scenarios that will guide our examination of maneuver warfare concepts in a NATO environment and their logistics implications:

- A limited strategic offensive by the Soviet Union designed to disintegrate NATO, remove U.S. armed forces from the continent, and thus gain dominance over Western Europe. (Even though there is no evidence as yet that the Soviet Union has doctrinally adopted a concept of limited war, objective analysis of current trends in their operational concepts suggests the emergence of such a concept.)
- A rapid advance of Warsaw Pact forces starting after 10 days of mobilization and reinforcement of forward echelons deployed in East Germany and Czechoslovakia.
- A campaign across NATO's Central Region that is designed to achieve the objective within 2 weeks by conventional means, but prepared to escalate to chemical and nuclear weapons on NATO territory excluding the United Kingdom and France.
- Initiation of war-termination negotiations in the first month to avoid nuclear escalation by both sides, with a freeze on the remaining combat forces and a political settlement that will be largely influenced by the territory gained by either side.

Theses inferences outline the type of contingency that NATO must demonstrably be capable of coping with if it takes deterrence serious.

EPILOG

This volume sets the stage for our examination into the logistics implications of AirLand Battle. In the next three volumes, we provide much of the detailed

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[18]Among recent critical reviews, the following three are the most helpful: Anthony H. Cordesman, "Fatal Flaws in Presenting the NATO/Warsaw Pact Balance," *Armed Forces Journal International*, Jul 1988, pp. 60–68; Stephen D. Biddle, "The European Conventional Balance: A Reinterpretation of the Debate," *Survival*, Mar/Apr 1988, pp. 99–121; and Leonard Sullivan, Jr. and Thomas H. Etzold, *Security and Stability in Conventional Forces: Differing Perceptions of the Balance*, Washington, D.C.: The Atlantic Council of the United States (in press).

information in support of the positions and assumptions presented in this volume. In Volume 5, we proceed with demonstrating why NATO's current tactical doctrine is flawed and must shift to a modified version of AirLand Battle to have any credibility on the modern battlefield. The final volume addresses the fundamental changes in logistics policy, procedures, and resources that are necessary to make such a shift feasible.

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This report examines the logistics implications of AirLand Battle, a new maneuver-oriented operational concept being adopted by the U.S. Army. The examination discusses the application of AirLand Battle in the NATO environment, details the need for NATO to shift toward adopting such a concept, and identifies the specific logistics improvements that are required to assure its success.

Volume 1 sets the stage for examining AirLand Battle doctrine and lays out the focus and scope of the study.

Volume 2 reviews NATO's defense posture, including its operational concepts and capabilities.

Volume 3 describes the military command structure, operational concepts, and capabilities of the Soviet Union.

Volume 4 summarizes the various arms control negotiations that have taken place between East and West to solve peacefully NATO's security problem.

Volume 5 illustrates the need for NATO to adopt a maneuver-oriented defense posture if it is to maintain a credible conventional defense.

Volume 6 details the specific logistics improvements that are required to support maneuver defense in a NATO environment.

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