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THESIS

EFFECT OF DOCTRINAL DIFFERENCES ON NATO C²

by

Kenneth P. Dzlerzanowski

June 1990

Thesis Advisor:

Michael G. Sovereign

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Effect of Doctrinal Differences on NATO C²

by

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Captain, United States Army
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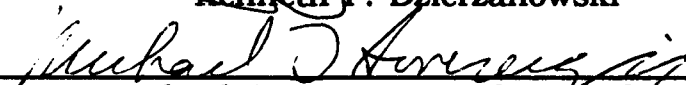
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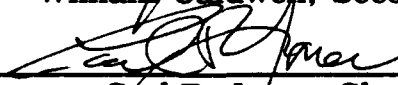
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ABSTRACT

The warfighting doctrines of NATO's five national armies, which are deployed in central Europe against the Warsaw Pact, are examined with emphasis on coalition warfare. NATO's warfighting doctrine is explored with particular attention to the military and political aspects of coalition warfare. Selected NATO command, control, and consultation issues, including synchronization and coordination, are identified and examined. The doctrines of these five national armies are not fully compatible. Warfighting doctrines which are not compatible increase the vulnerability of multi-national unit boundaries and do not contribute to the overall impression of deterrence. Concepts to improve NATO's deterrent and warfighting capabilities are presented. These concepts include approaching incompatible national doctrines as a coordination issue. If NATO strengthens its coordination mechanisms, both the coalition's peacetime deterrent efforts and wartime capabilities will be enhanced.



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I. INTRODUCTION

A. PURPOSE AND BACKGROUND

The purpose of this thesis is to analyze the warfighting doctrines of the national armies in NATO's Central Region. The issue will be developed in light of what may happen to NATO if it is forced to defend against a Warsaw Pact invasion. In particular, this paper will analyze what may occur when each of NATO's national armies, employing its diverse warfighting doctrines, fights the Warsaw Pact.

The North Atlantic Treaty Organization (NATO) is a military and political organization. The primary goal of NATO is to maintain peace and freedom for its members [Ref. 1:p. 1]. NATO pursues this goal through two functions. The first function is to support an adequate military strength and political solidarity to deter aggression. If deterrence fails, NATO would defend itself and fight to restore the territory of its member nations. The second function is to seek a stable political relationship in which the underlying political issues can be solved. [Ref. 2:p. 236]

The 16 democratic members of NATO have formed a coalition to achieve these two functions. The NATO alliance is fundamentally defensive. NATO does not intend to initiate an invasion of the Warsaw Pact and has structured its forces as such and plans for a defensive conflict.

NATO is not a coalition in which one superpower dictates policy and procedures to the other members. Additionally, the members of NATO, each with its own unique military system, follow diverse warfighting

doctrines. The diversity in warfighting doctrines is seen in central Europe. Within this region, NATO has eight corps deployed from five nations. These five nations each plan to fight a Warsaw Pact invasion with a different warfighting doctrine. [Ref. 3:pp. 321-322]

The Warsaw Pact, under the domination of the Soviet Union, is a threat to the security of NATO's 16 members. The Soviet Union's domination of its eastern European allies appears in the make-up of the Warsaw Pact. The Warsaw Pact follows Soviet military thought in both doctrine and organization. If the Warsaw Pact attacks NATO it will have the advantage since each of its members uses a similar warfighting doctrine [Ref. 3:p. 329]. In addition, Soviet military thinking is primarily offensive in nature. As stated in a 1985 White Paper by the West German government, "...Soviet military strategy is aimed at taking offensive action and attaining military victory over NATO in the event of war." [Ref. 4:p. 45]

If a conventional conflict does erupt in central Europe, many issues will have to be faced by NATO. Will each NATO member reach its forward defense positions in time and, just as importantly, maintain its position, shoulder to shoulder, with the other nations to its north and south? Additionally, are the various national warfighting doctrines of the individual NATO members compatible? How will possible incompatibilities in doctrine synchronize across unit boundaries? For example, what may happen if a West German corps, following its concept of a mobile defense doctrine shares a common boundary with a U.S. corps employing the maneuver based Airland Battle doctrine? If a battle fought by these two

separate national corps using two different warfighting doctrines progresses over time, will possible opportunities for exploitation be presented to the Warsaw Pact?

B. ORGANIZATION AND SCOPE

This thesis will begin with an explanation of NATO's structure and objectives. It explains why NATO exists and presents its unique functions, with particular emphasis on the Central Region. This discussion of the Central Region includes its geography and potential Warsaw Pact invasion corridors. NATO's military deployments are then developed, with an explanation of the "layer cake" arrangement of its corps and the mal-deployment of some of its military units.

Chapter III describes the Warsaw Pact and begins with a development of how it will fight and its organization. The offensive nature of Warsaw Pact doctrine is stressed, with emphasis on its tenets of surprise, combined arms offensive action, and momentum. The uncertainties and vulnerabilities of the Warsaw Pact alliance are then analyzed. Finally, comments are given on the current changes the Warsaw Pact has made in the late 1980s.

NATO's warfighting doctrine is then discussed in Chapter IV. This chapter will define deterrence and the three levels of warfare. The 40 year evolution of the Western Alliance is then presented with comments on the changes in NATO doctrine. The current NATO doctrine of flexible response is then explained, with emphasis on points such as follow-on forces attack (FOFA), nuclear weapons, the flexible response triad, NATO corps defense, and the published NATO warfighting doctrine.

Selected aspects of NATO command, control, and consultation (C³) are explored in Chapter V. The missions and structure of a corps are explained. Particular emphasis is placed on issues such as military doctrine, synchronization, coordination between corps, combined arms action, the coordination problem, and how is coordination achieved in NATO. The importance of coordination and synchronization is demonstrated by two examples. One example is the success of General George Patton's Third Army during the Battle of the Bulge. The second example is a discussion of possible boundary coordination problems in the Fulda Gap, between the U.S. V Corps and the West German II Corps.

Chapter VI will present the warfighting doctrines of the national corps in the Central Region. The various forms of defense are developed and each national corps is discussed from this viewpoint. Following this discussion, the five national corps are placed inside a common scenario. The common scenario has each NATO corps defending against a Warsaw Pact army on the North German Plain. This common scenario will assist in demonstrating potential problems caused by diverse warfighting doctrines.

Chapter VII will summarize the examination of NATO's five national warfighting doctrines. Comments are presented concerning possible solutions on the implications for NATO of each member's military fighting with diverse doctrines.

II. NATO

A. INTRODUCTION

The North Atlantic Treaty Organization (NATO) is a military and political organization. The primary objective of NATO is to maintain the peace and freedom of its members through the support of effective deterrence and defense.

By the late 1940s, the Soviet Union had incarcerated nine nations behind the iron curtain. Furthermore, the Soviet expansionism did not show any signs of abating. For the war-weakened western nations, the only answer seemed to be some form of collective security. In a 1949 response to the perceived Soviet threat, 12 Western countries formed a defensive coalition. [Ref. 3:p. 321]

The Warsaw Pact was established six years later under the control of the Soviet Union. The Pact coordinates the security arrangements of the eastern European member nations.

In NATO and the Warsaw Pact, one superpower dominates. The key difference between the two coalitions is the degree of superpower control. For example, Soviet military domination over its Pact allies has been nearly total. In contrast, U.S. control of NATO is not absolute. American leadership of the Western Alliance is based on the support of 15 other peers. [Ref. 3:p. 321]

By 1990, the Western Alliance had grown to 16 nations. Although the world situation has changed significantly since 1949, NATO is still a

collective grouping of nations sharing similar ideals and a common interest.

Over the past 40 years, NATO's success in achieving its objectives has been quite clear. For example, NATO has helped provide stability, cohesion, and peace for the Atlantic region [Ref. 2:p. 236]. In addition, "...the Alliance has played a major part in stopping Communist expansion in Europe...." [Ref. 2:pp. 235-236] These two accomplishments will be explained in this chapter.

The primary objective of this chapter is to examine the Western Alliance. NATO's center sector will serve as the focus of this examination. NATO's center sector is the only location where NATO and the Warsaw Pact confront each other on a constant basis and in great numbers. Chapter II will answer the following questions:

- What are the functions of NATO?
- How are NATO and the Supreme Allied Command Europe (SACEUR) structured?
- How is Central Europe prepared for defense?

B. FUNCTIONS OF NATO

According to the Harmel Report of 1967, NATO has two major functions. The first function is to maintain adequate military strength and political solidarity to deter aggression and other forms of pressure. If deterrence should fail, NATO would defend the territory of member states. NATO's second function is, "...to pursue the search for progress towards a more stable relationship in which the underlying political issues can be solved." [Ref. 2:p. 236]

To examine NATO's two functions, three issues will be presented. These issues are:

- What is deterrence?
- How is decision making accomplished in NATO?
- What actions does NATO take in an emergency?

The Western Alliance exists to deter aggression against member nations, but what is the definition of deterrence? One definition of deterrence is "Steps taken to prevent opponents from initiating armed actions and to inhibit escalation if combat occurs...threats of force predominate." [Ref. 3:p. 405] A nation or coalition establishes deterrence by having the "forces" to deter an enemy and the "will" to use these forces. This creates the "perception" of the deterrent strength for an opponent.

NATO decision making is affected by the fact that the coalition has both a political and a military nature. For example, before a NATO policy is established, both the military and political ramifications of the decision are examined. This may explain why many NATO decisions, if questioned from a purely military or political viewpoint, may not appear sound. However, if analyzed from the political and military perspectives, the NATO policy may make more sense. [Ref. 5]

Even in times of extreme crisis, Alliance decision making is by common consent. In other words, all 16 members must agree before any NATO decision is reached. Furthermore, considerable compromise may have to take place before the decision is announced. Finally, the requirement for unanimous agreement creates a process which demands time and patience. [Ref. 3:p. 323]

The security teeth of NATO are found in Article Five of the Atlantic Treaty. Article Five states that "...an armed attack against one or more [members]...shall be considered an attack against them all..." obligating each member to take "...such action as it deems necessary, including the use of armed force...." [Ref. 2:p. 230] However, contrary to popular misconception, NATO agreements do not require an automatic declaration of war or any other reflex action by member nations. The only required crisis action by NATO members, found in Article Four of the Treaty, is for consultation. Any further response past consultation is based on the individual nation's analysis of the nature of the attack, the defense capabilities of the state or states attacked, who the attacker is, and any other factors deemed important by member nations. [Ref. 3:p. 322]

As sovereign states, the Allies are not obliged to subordinate their policies to collective decision. The Alliance affords an effective forum and clearing house for the exchange of information and views; thus, each Ally can decide its policy in the light of close knowledge of the problems and objectives of the others. [Ref. 2:p. 237]

The Atlantic Treaty guarantees to each signatory that there is no obligation to subordinate their policies to collective decision making.

As such, it must deal with the art of the possible, harmonizing the interests of the member-states, coordinating their actions to meet a common goal, and resolving the inevitable disputes in a manner that leaves the alliance strong and cohesive. It should not be expected that national governments or their representatives at NATO will rise above their limited interests to a significant degree. Consequently, evolutionary rather than revolutionary approaches are needed.... [Ref. 6:p. 446]

In a NATO emergency, the Atlantic Treaty stipulates the need for consultation. The structure of NATO is designed to assist the process of consultation.

C. HOW NATO IS ORGANIZED

This section describes the organization of NATO. The top Alliance leadership is composed of civilians. NATO's senior authority is the North Atlantic Council. Permanent ambassadors from 16 coequal nations represent member governments. "The North Atlantic Council provides a unique forum for confidential and constant intergovernmental consultation on all topics as well as providing the highest levels of decision-making machinery within NATO." [Ref. 7:p. 7]

The Defense Planning Committee is a parallel organization whose prime concern is formulating collective security policy. This committee has the same membership as the North Atlantic Council, except for France and Spain. The Defense Planning Committee also has representatives from groups such as the Nuclear Defense Affairs Committee and the Nuclear Planning Group [Ref. 3:p. 323]. Figure 1 represents the NATO Command Structure [Ref. 3:p. 324].

Chiefs of staff from NATO countries make up the Military Committee (MC). The Military Committee advises the North Atlantic Council/Defense Planning Committee (NAC/DPC) on security matters. Supporting the Military Committee and the NATO structure is an International Military Staff (IMS). [Ref. 3:p. 323]

Under the guidance of NATO leaders are three Major NATO Commands (MNC). The Supreme Allied Commander Europe (SACEUR), Supreme Allied Commander Atlantic (SACLANT), and Allied Commander in Chief Channel (CINCHAN) develop and coordinate military plans for their respective regions. [Ref. 3:pp. 324-325]

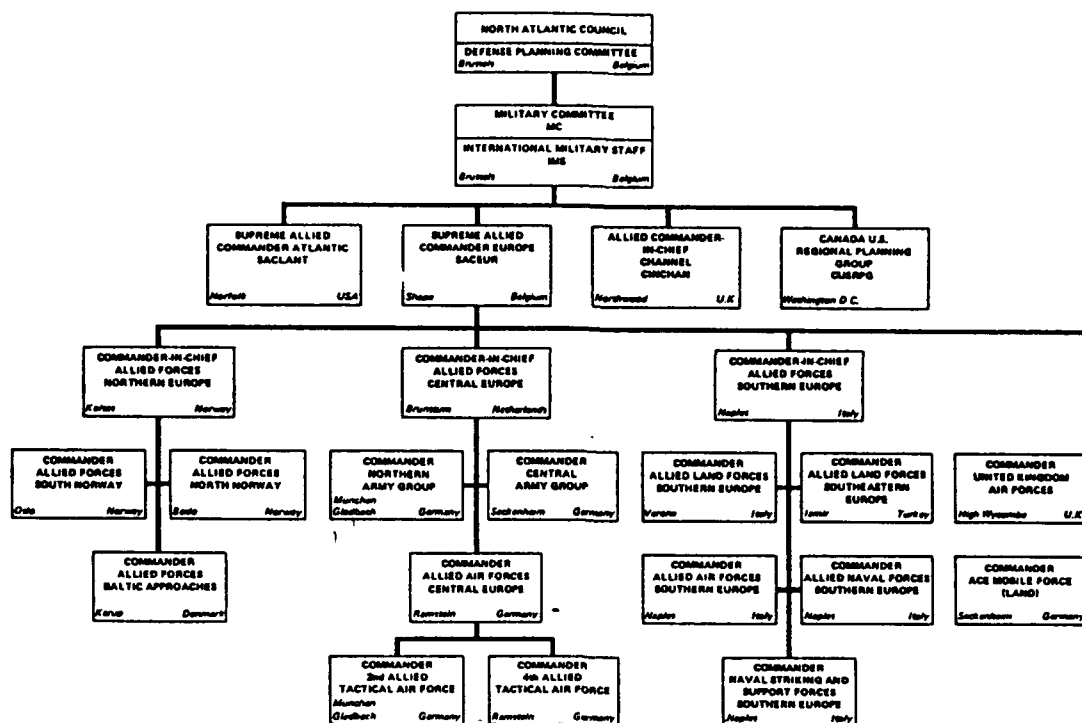


Figure 1. **NATO Command Structure**

NATO's European military structure, commanded by SACEUR, is Allied Command Europe (ACE). Allied Command Europe stretches from the North Cape of Norway to North Africa and from the Pillars of Hercules to the Turkish border with Iran [Ref. 3:p. 325]. Allied Command Europe has several Major Subordinate Commands (MSC). The Major Subordinate Commands are divided by geographical region. These MSCs are Commander in Chief Allied Forces Northern Europe, Central Europe, Southern Europe, and United Kingdom Air Forces [Ref. 7:p. 17].

Allied Forces Central Europe (AFCENT) is composed of five Principal Subordinate Commands (PSC). These Principal Subordinate Commands defend NATO territory from the Baltic to the Alps. Allied Forces Central Europe's Principal Subordinate Commands divide their responsibility by

geographical region or function. The five PSCs of AFCENT are Northern Army Group (NORTHAG), Central Army Group (CENTAG), Allied Air Forces Central Europe (AAFCE), Second Allied Tactical Air Force (TWOATAF), and Fourth Allied Tactical Air Force (FOURATAF). [Ref. 7: pp. 17-18]

In peacetime, military forces remain under national control. This NATO procedure results in a peacetime SACEUR commanding very little. SACEUR's peacetime forces consists of 18 NATO Airborne Warning and Control Systems (AWACS) aircraft, NATO communications, and air defenses. In addition, SACEUR has partial control over the ACE Mobile Force. This mobile force is composed of light ground units supported by artillery and air assets. In a crisis, national governments should execute the timely transfer of appropriate military forces to NATO. Until this point, NATO commanders rarely control more than their headquarters and staffs.

American forces in Europe operate in two command structures. The two structures are the U.S. national military command with links through United States European Command (USEUCOM) to Washington, D.C. and NATO's Allied Command Europe (ACE) under SACEUR. SACEUR is dual-hatted as a NATO military commander and the senior U.S. commander in Europe (CINCEUR). Both command structures have similar objectives. The mission of the U.S. and NATO commands is to provide combat-ready units to deter aggression. The main difference exists in the area of logistics. [Ref. 8:p. 4]

ACE has the mission to plan for and employ the forces in combat; whereas, the U.S. mission is to provide combat forces to ACE and to support or arrange for the support of those forces should they be employed. [Ref. 8:p. 4]

D. NATO'S CENTER SECTOR

NATO's center sector is the most heavily populated and productive part of Europe. The frontier region between NATO and Warsaw Pact is the only location where either coalition confronts each other in large numbers. This frontier was the high-water mark of the Red Army in World War II and a potential start line for any future European ground war. [Ref. 9:p. 21]

West Germany spans more than 850 kilometers from north to south. NATO's Central Region, however, is only one-third of 850 kilometers from east to west. In addition, the sector narrows in the center to only 225 kilometers [Ref. 10:pp. 277-278]. Two hundred and twenty-five kilometers (225 km) is approximately the distance from Washington, D.C. to Philadelphia [Ref. 3:p. 347]. Overall, a map of the center sectors portrays a region which is long from north to south and lacking depth.

NATO's center sector lack of depth severely complicates regional defense planning. NATO cannot slowly fall back to the Pyrenees along established lines of communication. NATO must fight in a congested region with little room for maneuver. [Ref. 3:p. 347]

Three strategic avenues of approach penetrate from the Warsaw Pact into SACEUR's center sector. These three avenues are the North German Plain, the Fulda Gap, and the Hof Corridor. Figure 2 shows these three avenues of approach. [Ref. 9:p. 23]

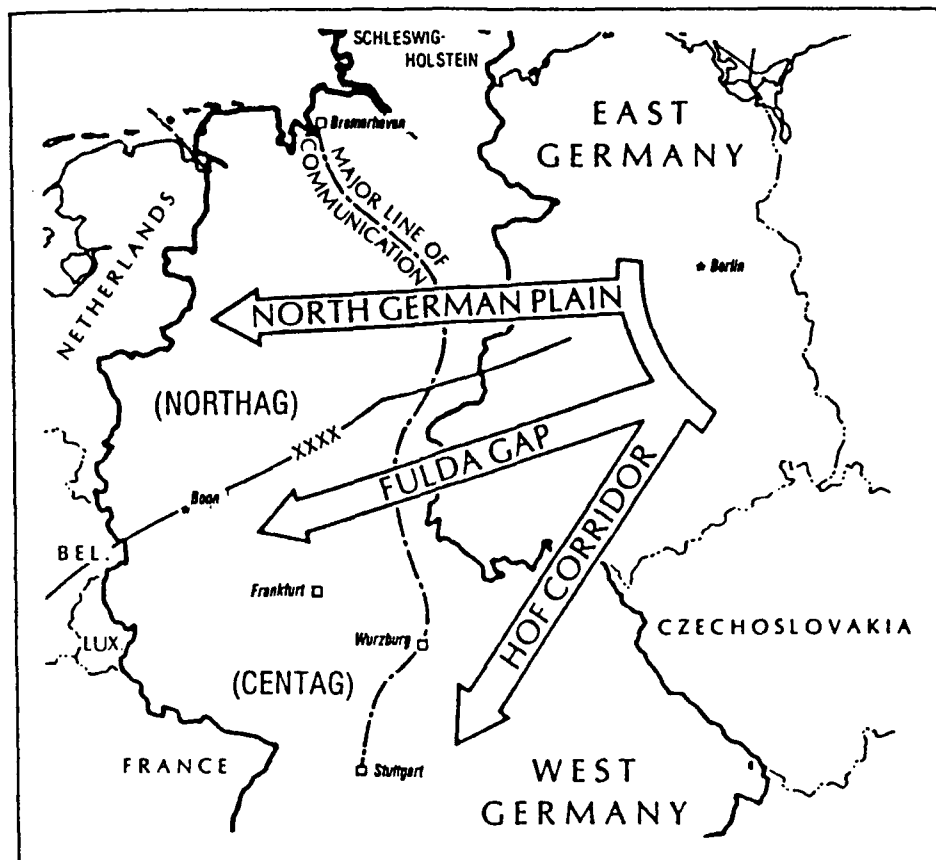


Figure 2. Primary Avenues of Approach for the Warsaw Pact

The northernmost approach is the North German Plain. The North German Plain is part of a geographic belt which starts in the Soviet Union and extends in a broad sweep along the Baltic Sea. This belt continues westward, bending into France and ending at the Bay of Biscay [Ref. 9:p. 21]. The North German Plain consists of flat to gently rolling terrain. Furthermore, an excellent road system will support the movements of both NATO and the Warsaw Pact. However, a series of small rivers and marshlands could hinder unprepared military units if they were forced to move cross-country. [Ref. 3:p. 344]

The North German Plain forms a natural invasion corridor and has been utilized for that purpose by several armies. From the Warsaw Pact's perspective, the North German Plain is extremely promising as a potential invasion route [Ref. 9:p. 22]. "Traveling westward, it leads directly to the heart of Western Europe, placing an invading army across the enemy's industrial heartland and near every major West European capital...." [Ref. 9:p. 22] The North German Plain is also the flattest ground in Central Europe and offers the best terrain for a Soviet-style mechanized ground assault.

The North German Plain is of critical importance to NATO. For example, the closeness of the North German Plain to major NATO cities and resources makes the plain extremely valuable to NATO. In addition, the North German Plain is required for other military uses. For example, the U.S. supply lines, which no longer run through France, are proximate to the North German Plain. This proximity makes the supply routes more vulnerable to Warsaw Pact interdiction.

The flat terrain of Northern Germany makes the defender's task increasingly more complex than that of the Warsaw Pact attacker. For example, if the defender does not know the location of the enemy attack, he must spread defensive forces over a larger area. The defender with limited resources hopes that he is covering the most dangerous breakthrough points. However, an open area like the North German Plain allows the attacker to select his main effort from a wide number of choices. In contrast, if the terrain is more restricted (as in southern Germany), the attacker is constrained to fewer potential breakthrough

points. The attacker must overcome the difficulty of the terrain as well as the defender's more concentrated military forces.

Movement between the northern and southern halves of NATO's center sector is not easy. The geography of West Germany restricts the lateral movement of military forces. "Not only might the forces in the south be pinned down by enemy attacks, but the grain of the German country tells against south-north movement by a ratio of 4:1 in hills, and 2:1 in the plains." [Ref. 10:p. 271] Although highways and railroads would support a peacetime redeployment, under attack it might be very difficult.

Topography is more rugged in the southern half of NATO's center sector. Two major avenues of approach breach the mountain barriers along the Czech and East German borders and penetrate the southern half of the Central Region [Ref. 3:p. 344]. The first breach is the Fulda Gap. The Fulda Gap begins in the vicinity of Weimar, East Germany, then crosses the German border, and finally funnels into Frankfurt. The second breach is the Hof Corridor. The Hof Corridor starts near Leipzig, East Germany, and cuts due south into Bavaria. The road net for these two breaches is generally good. However, woods and hills hinder cross-country movement. [Ref. 3:p. 344]

The Fulda Gap and Hof Corridor are more defensible than the North German Plain. The terrain in southern Germany is not flat and allows the defender major advantages if he properly prepares his defenses. Furthermore, southern Germany's more rugged terrain allows the defender the ability to mass his forces by not having to defend every meter of the front. This is in contrast to the flat North German Plain.

NATO's strategic defensive posture has military advantages and disadvantages. Because defenders' forces can choose the tactically advantageous terrain where they would fight, they can pick the spots that offer them the most protection. Moreover, they can organize and coordinate their firepower to a degree unachievable by an attacker...The disadvantage of the NATO forces' strategic defensive posture is that a Pact aggressor would be able to select the time and location of its attack. [Ref. 11:p. 3]

Of the Warsaw Pact's three potential invasion corridors, the North German Plain is the most promising to the Pact and extremely important to NATO. Maintaining the integrity of the North German Plain is critical for keeping NATO nations such as the Netherlands, Belgium, and West Germany actively fighting. If NATO loses the battle for the North German Plain, the solidarity and will of NATO will be shaken. Furthermore, the military situation would be extremely threatening in that the Warsaw Pact would be in the political, economic, and military core of western Europe.

E. NATO DEPLOYMENTS

Along NATO's center sector are eight corps from five nations. Six nations would be present if the French are counted. In time of war, these eight corps would come under the authority of Allied Command Europe, as discussed earlier. Because of the size of Allied Command Europe, the region has been split in two: the Northern Army Group (NORTHAG) and Central Army Group (CENTAG) [Ref. 9:p. 40]. See Figure 3 [Ref. 24:p. 20] for the military sectors in NATO's Central Region.

The northern neck of West Germany, containing the German state of Schleswig-Holstein, is defended by a German mechanized division under

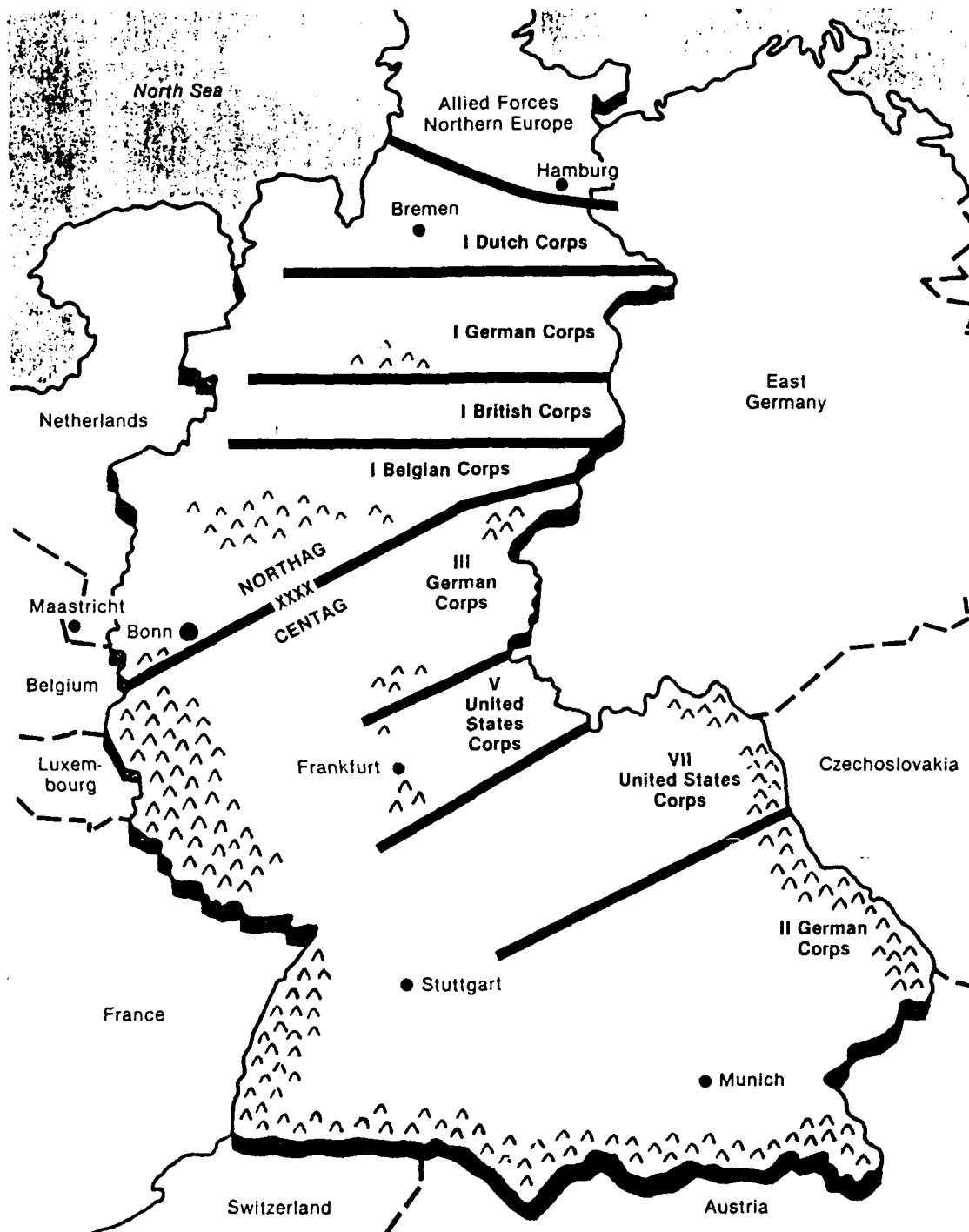


Figure 3. Military Sectors in NATO's Central Region

Allied Forces Northern Europe (AFNORTH). AFNORTH headquarters is near Oslo, Norway. The area of responsibility of HQ AFNORTH comprises West Germany north of the Elbe River, Denmark, Norway, and adjacent sea areas.

The northern neck of West Germany, containing the German state of Schleswig-Holstein, is defended by a German mechanized division under Allied Forces Northern Europe (AFNORTH). AFNORTH headquarters is near Oslo, Norway. The area of responsibility of HQ AFNORTH comprises West Germany north of the Elbe River, Denmark, Norway, and adjacent sea areas.

The Northern Army Group is composed of four corps. From north to south, the nationalities of these corps are: one Dutch corps south of the Elbe River, one West German corps, one British corps in the center of the North German Plain, and one Belgian corps covering the border with CENTAG [Ref. 9:p. 40]. NORTHAG contains 11 divisions, but none of these units is deployed along the inner-German border (IGB) in peacetime. NORTHAG is responsible for approximately 210 kilometers of the frontier with the Warsaw Pact [Ref. 10:p. 302]. In addition, in NORTHAG the U.S. maintains one forward-deployed brigade from the U.S. III Corps. Deploying III Corps units from the United States are scheduled to use prepositioned equipment in NORTHAG [Ref. 9:p. 40].

The CENTAG commander also fields four corps. These four corps cover a region of almost 590 kilometers. Two West German corps cover the two flanks of CENTAG and two U.S. corps are in the center. A Canadian brigade and a small French corps are in CENTAG's southwest

corner. Counting the French units, there are $13 \frac{2}{3}$ divisions in CENTAG. [Ref. 3:p. 344]

The U.S. and German corps are close to full strength in both personnel and equipment. Furthermore, the Americans and Germans are usually fully prepared for combat. All other NATO nations in the center sector require about three days to achieve wartime readiness [Ref. 9:p. 40]. The strengths and weaknesses of the five national armies which make up NATO's center sector will be discussed in Chapter VI.

The vast bulk of NATO divisions are earmarked for deployment along the inner-German border. The closest thing to a NATO reserve which is capable of intervening in either NORTHAG or CENTAG is the II French Corps, the small Canadian brigade, or a West German parachute division. Furthermore, the French III Corps and the U.S. III Corps may be of assistance in NORTHAG. [Ref. 10:p. 270]

The main grouping of Allied Command Europe's headquarters, depots, airfields, and logistical bases is held as far west as the narrow sector allows. The two major concentrations of these facilities are in the vicinity of Cologne and in the region between Trier and Heidelberg. [Ref. 10:p. 270]

From north to south, the eight corps of NATO's forward defenses are:

- I Netherlands Corps
- I West German Corps
- I British Corps
- I Belgian Corps
- III West German Corps

- V U.S. Corps
- VII U.S. Corps
- II West German Corps [Ref. 10:p. 270]

The only two corps which share common national boundaries are the V and VII U.S. Corps. The remaining corps are intermixed. For example, the three German corps are widely scattered among the U.S., British, Dutch, and Belgian corps.

From a purely military viewpoint, NATO's "layer cake" corps structure is not the most effective way to defend Central Europe. The arrangement of eight intermixed corps creates a complicated operational situation. For example, if the corps are deployed to their forward defensive positions, there would be a crisis-crossing of road marches and supply lines. One situation is the U.S. 3d Mechanized Infantry Division, whose movement to its border sector would be through garrison areas of the West German 12th Armored Division. [Ref. 10:p. 271]

Complicating the maldeployment problem is the peacetime location of some of the national corps. The national corps border defenses do not always correspond to their peacetime barracks locations. For example, the U.S. 8th Mechanized Infantry Division is poorly located on the west side of the Rhine and at a great distance from its border positions. Another example is that five of six brigades from the Netherlands are stationed in their homeland. Only one brigade is forward in West Germany covering the sector assigned to the I Netherlands Corps [Ref. 3:p. 344]. The Belgian army has a similar problem. Less than one-half of the active armed forces are deployed forward in West Germany. Moving the Dutch

and Belgian units into their forward positions will require early warning of a Pact invasion [Ref. 9:p. 44]. "The time required to move Belgian and Dutch forces to their defensive positions might well be the 'pacing factor' that drives NATO mobilization deadlines." [Ref. 9:pp. 44-45]

All nations in NATO's center sector do not possess similar military capabilities. The detailed capabilities of individual nations will be discussed in Chapter VI. The "layer cake" arrangement has helped create the problem of not spreading NATO forces equitably across the center sector. For example, the important North German Plain is protected by a mixed bag of four national corps. Many experts do not have full confidence in the ability of NORTHAG (with the possible exception of the I West German Corps) to sustain a forward defense. In contrast, the more prepared and better equipped U.S. and German corps stand guard over the least dangerous and the most easily defended southern sectors. [Ref. 3:p. 344]

Although it is a grave oversimplification to state outright that NATO's right is strong and the left is weak, the fact remains that the better going for tanks and the more important targets for the Warsaw Pact are to be found in the north, where the NATO contingents are ill-assorted and scattered. [Ref. 10:p. 271]

From a military perspective, correcting the maldeployments of the national corps would make military sense. However, NATO decisions are made from both political and military points of view. The political challenges of reshuffling are difficult [Ref. 3:p. 347]. In a commentary on a 1975 NATO report by retired German general Ulrich de Maiziere, the expense of reshuffling was addressed.

A relatively simple move, like that of a mechanized infantry battalion to an existing base, was costed by Maiziere at 1,700,000 Deutschmarks at the 1975 rate. The price was much greater when a new base had to be constructed, and amounted to 53,000,000 Deutschmarks for a mechanized infantry battalion—a bill which did not include the purchase of land, or the elaborate housing and other base facilities required by foreign regular units and their families, like those of the Americans or British. [Ref. 10: pp. 271-272]

The much-criticized disposition of NATO forces in the Central Region is a result of several factors. "The arrangement of the NATO forces in West Germany owes almost everything to politics, economics, history and inertia, and very little to operational considerations." [Ref. 10:p. 268]

In large part, the current locations of NATO's national corps parallel post-World War II British, French, and American occupation zones [Ref. 3:p. 344]. In turn, these occupation zones were a result of allied campaigns against the Germans. For example, as the allies came ashore in Normandy on 6 June 1944, the British were on the left flank and the Americans on the right flank. To avoid crossing lines of communications, the British and Americans advanced across France and into Germany with the British on the left and the U.S. forces on the right. World War II ended with the American army campaigning in southern Germany, Czechoslovakia, and Austria, while the British were situated in northern Germany. The newly formed NATO alliance of 1949 generally maintained the same defensive sectors as the post-war occupation zones. Consequently, the disposition of NATO troops in 1990 is in large part a result of a 1940s historical accident. [Ref. 10:p. 268]

There are other reasons for the mixing of the allies. One reason, which is not stated formally, is to avoid international unease over stationing three or more powerful German corps in one location. In the late

1940s and 1950s, some Europeans were unsure of massing the German army in one location because of the history of the Franco-Prussian War, World War I, and World War II. In addition, there is a German national desire to defend as many sectors of their border as possible. Another reason for the intermixing of corps is to share risk-taking. The political advantage of sharing the risk is that a Pact invasion will not fall exclusively on one nation. In other words, the Warsaw Pact assault would engulf the forces of many nations, ideally unifying NATO action. A threat to one nation, in one narrow sector, might not as quickly unify the democratic nations against an invader. [Ref. 10:pp. 270-271]

Other factors contributed to the "layer cake" arrangement of the center sector. In the late 1940s and 1950s, the financially constrained allies were seeking barracks for their soldiers. One result of this budget problem was that the allied forces moved into whatever former Wehrmacht or Luftwaffe barracks best suited their needs. The consequences of this were that many units' peacetime locations were a great distance from their wartime positions. The 1966 departure of the French military also left large gaps in NATO defenses. Filling these holes, primarily with West Germans, further contributed to the "layer cake" disposition of NATO troops. [Ref. 10:p. 268]

The "layer cake" ground defense of NATO's Central Region should be viewed as a whole. A successful defense of a national corps area means little if a major Warsaw Pact penetration occurs elsewhere. Unfortunately, mutual support between five national forces could be difficult. This concept will be further discussed in Chapter V.

III. THE WARSAW PACT

A. INTRODUCTION

To properly assess how the Warsaw Pact will fight the NATO alliance is a complicated task. This chapter will portray the Warsaw Pact in a simplified manner. The Pact is in the process of change and its final form is open to debate. These changes may result in a Warsaw Pact without a significant advantage in conventional arms. However, this chapter will discuss only the present organization, not anticipated forces structures [Ref. 12:p. 92]. With this approach in mind, the Warsaw Pact will be examined on the following levels: how it will fight, how is it organized, and what the uncertainties in its structure are.

B. HOW THE WARSAW PACT WILL FIGHT

The Soviet forces and their Warsaw Pact allies are trained and equipped for a wide variety of operations. These operations cover the spectrum of military conflict from all-out nuclear, chemical, and biological warfare to conventional warfighting. For whatever level of operations, the Warsaw Pact stresses offensive action as the key tenet of their doctrine. From the Warsaw Pact's perspective, offensive maneuver is superior to all others. Any defensive action is looked upon only as a temporary condition. This offensive doctrine has its roots in Soviet history. The best way to defend the Soviet Union from ground invasion is to ensure that any war is conducted from the east to the west and not from

the west to the east. This point was first learned from Napoleon in 1812 and relearned during Hitler's assault of 1941. [Ref. 10:p. 250]

Most western military analysts, from reading Soviet literature and observing Soviet military operations since World War II, agree that the form of Warsaw Pact strategy in Central Europe has become quite evident. The strategy of the Warsaw Pact is a quick penetration of NATO's forward defenses. This break-through is followed by rapid movement into the strategic depths of NATO. This would, in turn, hinder mobilization of NATO's European forces and prevent reinforcements from the United States, Britain and Canada. The successes of these operations would then lead to the military and political collapse of the NATO alliance. [Ref. 13:p. 4]

On the ground, this strategy is accomplished by the massing of superior forces at the point(s) of penetration. "In offensive operations, Pact forces can be expected to concentrate along NATO's Central Front on narrow axes of attack to break through what they consider the most vulnerable sectors of NATO's forward defenses." [Ref. 12:p. 94] The Warsaw Pact armies will be arrayed in echelons. The first echelon forces would fix or destroy NATO's forward defenses. The second echelon would either reinforce success, complete the destruction of NATO's forward units, or flow through the newly created gaps into the depths of NATO. [Ref. 13:p. 4]

If the Warsaw Pact decides to destroy NATO using a direct military attack, the success of this assault would depend primarily on three factors. These three factors are surprise, at both the strategic and

tactical levels, a combined arms offensive, and combat momentum. [Ref. 14:p. 2]

C. SURPRISE

The use of surprise is a principle of war highly favored by the Warsaw Pact. This is found by the extensive coverage given the element of surprise in their military writings, training, and operations. The Soviets' most recent military operations in Czechoslovakia and Afghanistan demonstrated their skill at achieving strategic surprise by extensive deception operations. [Ref. 9:p. 67]

The element of surprise is a much sought-after goal. Commanders at the strategic, operational, and tactical levels all expend great efforts to obtain this goal. For example, tactical surprise has worked successfully on countless battlefields where the unexpected attack has caught the defender unaware. This has led to even greater success if the attacker is bold enough and sufficiently prepared to exploit his new-found advantage. [Ref. 9:p. 67]

Strategic surprise is often harder to obtain. The advent of space satellites should make strategic surprise more difficult to achieve. Even if harder to achieve, the results of strategic surprise are much more pronounced. For example, if strategic surprise is successful, the enemy may be removed with one decisive action. Furthermore, the goal of strategic surprise is not necessarily to hide war preparations from the intended defender but to place doubts in the mind of the victim concerning the true intentions of the attacker. [Ref. 9:p. 68]

Surprise attacks in the 20th century have become the preferred method of starting conventional wars.

The German assault on Russia, the Japanese attack on Pearl Harbor, the Israeli preemptive attacks of 1967, the Warsaw Pact's rapid invasion of Czechoslovakia in 1968, and the Soviet occupation of Kabul in 1980 were all strategic surprises aimed at quickly overthrowing the opposition; in some cases they succeeded. [Ref. 9:p. 68]

D. COMBINED ARMS OFFENSIVE

The Warsaw Pact will attack in a combined arms manner. This force will employ air power, surface-to-surface missiles, special forces operations, initial assaulting forces, and follow-on forces. Each element of the combined arms force will be fitted into the overall plan with its individual set of objectives. The goal will be an effective balance of combined forces which would have a synergistic effect on the overall operation.

This combined arms force will consist of several components. Initial assaulting forces will seek multiple and deep penetrations of NATO's forward defenses. "New generations of tanks and infantry fighting vehicles have been introduced at rates exceeding NATO's modernization." [Ref. 14:p. 4] New self-propelled artillery units, air defense weapons, attack helicopters, and close support aircraft have added increased firepower for the Warsaw Pact commanders. Follow-on forces, fresh and highly mobile, would continue the attack and seize objectives deep in NATO territory. Furthermore, the Soviets have created "Operational Maneuver Groups" (OMG) to provide additional shock and mobility for the Warsaw Pact. The final result of these elements is a highly mobile force which is designed to

utilize combined arms tactics and take advantage of the element of surprise. [Ref. 14:p. 4]

To be certain to take what you attack is to attack a place the enemy does not protect...Now an army may be likened to water, for just as flowing water avoids the heights and hastens to the lowlands, so an army avoids strength and strikes weakness. Sun Tzu (2:96,101) [Ref. 15:p. 10]

E. MOMENTUM

The third factor of Soviet doctrine is the principle of momentum. This is created by the "mass" of the forces combined with the "velocity or speed" of their action. This momentum would seek to penetrate the forwardly deployed forces of NATO and provide the means to continue the attack into NATO territory.

The first element of momentum is "mass." The Soviets seek a margin of at least three or four to one at the point of attack if their assault is to have an acceptable chance of success. However, a superiority of seven or eight to one is hoped for to greatly increase the chances for a quick victory. [Ref. 16:p. 153]

To move the Pact forces toward the frontline in a dispersed but useful manner, the concept of "echeloning" has been developed. This concept calls for all units, from a company upwards, to move in at least two echelons. For example, in an attack, if the forward echelon is successful, the second echelon could exploit this effort with its fresh forces. [Ref. 9:p. 64]

Seen from the front, the effect of these successive echelons would be like waves crashing onto a beach, one after the other, preceded by a rolling storm of artillery fire and possibly chemical attack supported by armed helicopters and close support aircraft. [Ref. 9:p. 64]

The second element of momentum is "speed" or "velocity." This principle is stressed throughout all phases of a Warsaw Pact military operation. "Rapidity of attack gains surprise, reduces the enemy's ability to respond, and takes from the enemy time he would use against Soviet forces." [Ref. 9:p. 62] This is demonstrated in Warsaw Pact military training, which stresses meeting engagements, pre-planned actions in response to a battlefield situation (battle drills), and "speed of decision." Whether or not "speed of decision" will be a reality is open to some debate in a society which discourages initiative and risk-taking. [Ref. 9: pp. 62-63]

The military doctrine of the Warsaw Pact is standardized on the Soviet model. This is in contrast to NATO. "The Soviet Union would never tolerate in the armed forces of the Warsaw Pact the wild divergences that are found in NATO." [Ref. 10:p. 146] The warfighting doctrine of the Warsaw Pact stresses offensive action, but the ability of the non-Soviet Warsaw Pact armies to meet all aspects of the Soviet-style offensive doctrine could be questioned.

F. HOW THE WARSAW PACT IS ORGANIZED

The Warsaw Pact is under the control and leadership of the Soviet Union. The organization of each member's military force is similar to the Soviet example.

In the Warsaw Pact, the Soviets maintain four groups: Group of Soviet Forces, Germany; Northern Group of Forces in Poland; Central Group of Forces in Czechoslovakia; and the Southern Group of Forces in Hungary. The relationships between these Soviet units and NATO may be

seen in Figure 4 [Ref. 10:p. 269]. In wartime, forces from these groups and Soviet military districts will be organized into theaters of military operations (Russian: TVD) and fronts (army groups). [Ref. 17:p. 1-1]

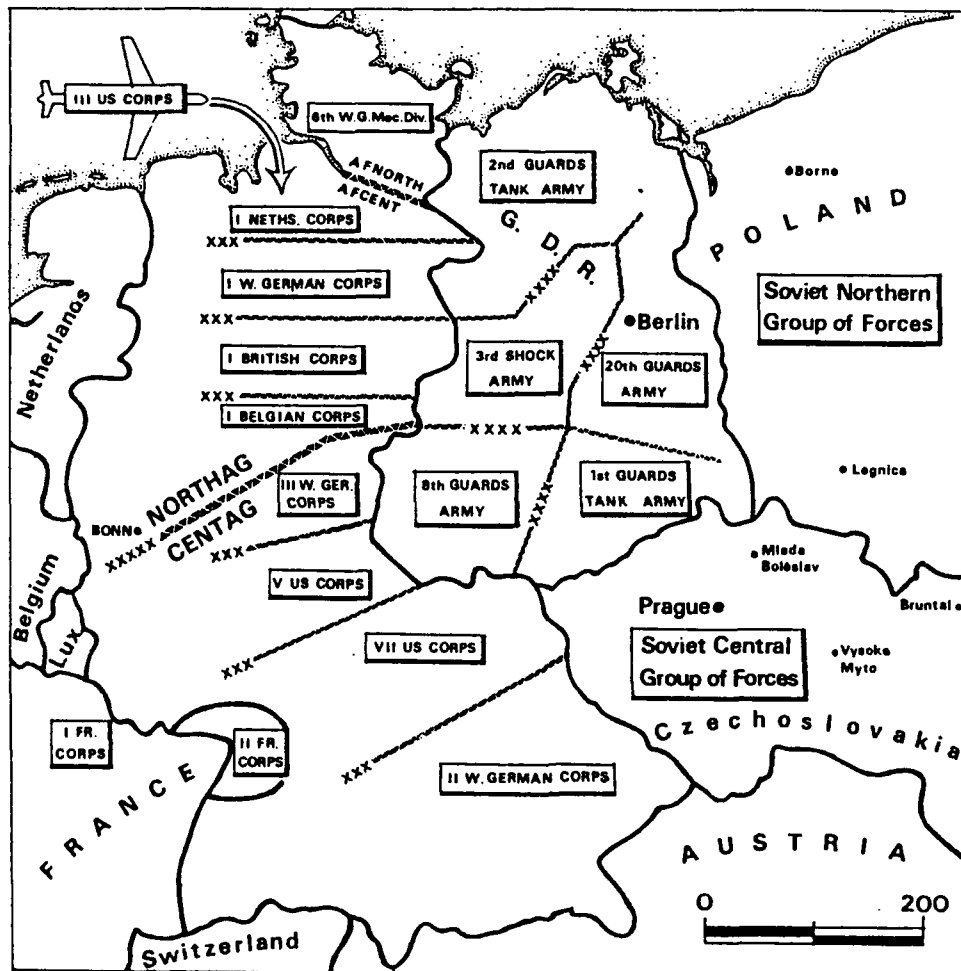


Figure 4. The Central Front and Locations of Soviet Units

The front is the largest field formation in wartime. This unit is roughly equivalent to a NATO army group. A front is composed of three to five armies with supporting forces. An army is of two types, either a combined arms army or a tank army. A combined arms army has two to

four motorized rifle divisions and one or two tank divisions. The tank army has two to four tank divisions and one to two motorized rifle divisions. The three types of Warsaw Pact divisions are rifle, tank, and airborne. These units are organized based on their mission. [Ref. 17:pp. 1-2 to 1-3]

Deployed in East Germany are 19 highly trained and fully equipped Soviet tank and motorized rifle divisions. These units are supported by five more divisions in Czechoslovakia, two in Poland, and perhaps four in Hungary. The forwardly deployed Soviet divisions are supported by a further 37 divisions in the western military districts of the USSR. The non-Soviet Warsaw Pact (NSWP) allies currently field 29 divisions and 15 brigades for use by the Pact. The overall readiness of these units does vary between nations. Most are not fully manned, trained, or equipped. [Ref. 12:p. 95]

The Pact military units share a major advantage because they share a common doctrine, equipment, and command and control system. The current structure of the Warsaw Pact is depicted in Figure 5 [Ref. 3:p. 328]. The Warsaw Pact does not have the major problem of being a voluntary alliance of democratic nations.

...as a voluntary alliance of sovereign and capitalist nations, NATO does not have the will or the power to enforce the high degree of standardisation and interoperability which obtains in the military equipment of the Warsaw Pact. [Ref. 10:p. 146]

The Warsaw Pact is continuing a major modernization program. The Pact is fielding new systems and replacing older models. For example, the

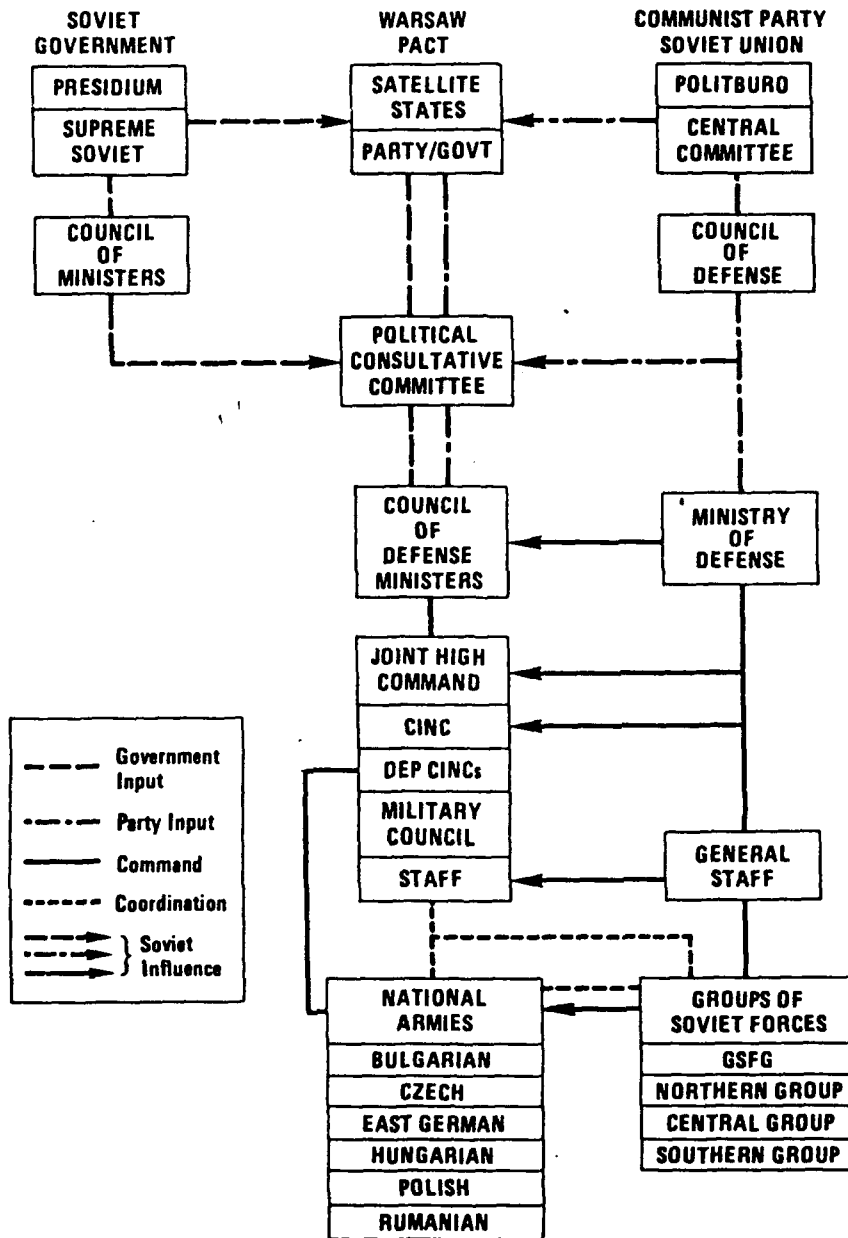


Figure 5. Warsaw Pact Command Structure

T-80, T-64B and T72M1 Main Battle Tanks are a significant improvement over current vehicles. Furthermore, one of the most serious threats to NATO is the increased use of reactive armor by the Warsaw Pact. This type of armor and other improvements may negate much of NATO's modern antiarmor forces and antitank missile capability [Ref. 12:p. 110]. Other modernization efforts are continuing in the areas of infantry fighting vehicles, artillery, and attack helicopters.

G. UNCERTAINTIES AND VULNERABILITIES

The forces of the Warsaw Pact are formidable, but the Warsaw Pact does have problems. These problems compound the uncertainties of Pact leaders when they are calculating the advantages and disadvantages of a direct military assault on NATO. In a book entitled *Strengthening Conventional Deterrence in Europe*, many of these uncertainties are noted. This book was prepared by a special panel of NATO experts which included General Andrew Goodpaster and General Franz-Joseph Schulze. These experts discuss the Warsaw Pact uncertainties caused by:

- The difficulty of achieving strategic and tactical surprise in an era of high technology sensors and other systems.
- The success of the Warsaw Pact's largely untried doctrine and concepts.
- The capabilities for initiative and flexibility at lower levels of command.
- The reliability of Warsaw Pact allies. This issue has only increased after the startling changes which have taken place in the 1980s and continue to occur in the 1990s.
- The potential for nuclear escalation. [Ref. 14:pp. 5-6]

In a direct invasion of Central Europe, other issues appear which complicate the operations of the Warsaw Pact. These complications include:

- The requirement for a swift victory before the mobilization of the superior western economies and military potential.
- The dependence on a steady flow of follow-on forces.
- The dependence on roads and open terrain, which are becoming increasingly restricted by the growing urbanization of Central Europe.
- The Soviet tradition of executing highly preplanned and rigid military operations.
- The need for continuous and effective command and control as the Warsaw Pact advances into enemy territory.
- The gigantic logistical requirements of a large, combined arms operations which must be supported by reliable lines of communications.
- The requirement of massing breakthrough forces for offensive operations. These concentrations will become vulnerable to NATO conventional and nuclear firepower. [Ref. 14:pp. 5-6]

In addition, other critical issues are present in the minds of the Soviet planners. Such potential problems are the loyalty of the diverse ethnic or national groups which are present in the Soviet republics. What will these groups do when the Soviet military is engaged in Central Europe? Furthermore, the Chinese question is still a reality. While the Red Army is invading Western Europe, will the Chinese remain quiet along their long, shared border with the Soviet Union? All of these uncertainties and vulnerabilities are part of the equation as the Warsaw Pact leaders weigh the decision of invading NATO territory.

In any study of Soviet doctrine, one may be impressed with the large concentrations of military forces. The highly mobile and effective Soviet armor may be easily visualized breaking through any opponent, but Soviet military doctrine is not played out simply on a sand table or inside a training area.

...anyone who actually ever had to maneuver armor across country and through built-up areas knows it is not the smooth and rapid evolution shown on the sand table. Instead there are rapid spurts across open areas. Then there is the maneuvering through streets and over embankments, then stream gullies and stone walls, all the while trying to keep one's own tanks in sight and to look for those of the enemy. Compound the scene by adding air attack, noise, smoke, and unfriendly fire, thereby driving formations off the roads and into the fields and forests. Visual contact would be lost, both with guiding roads and with friends. Units on narrow fronts would wander into the paths of neighboring formations. The Red Army's problems are further increased with its reluctance to train tank crews in map reading or land navigation. [Ref. 9:p. 107]

H. CURRENT CHANGE

Since mid-1987, the Soviets have publicly proclaimed the "defensive orientation" of their armed forces. Furthermore, their military doctrine is stated to be based on "reasonable" or "defense sufficiency." The Soviet leadership has explained the current force reductions as part of their shift toward a defensive force structure. On 25 April 1989, the Soviets began their troop withdrawal with a well-publicized ceremony in Hungary. "Simultaneously, however, the Soviet Union has been reorganizing and modernizing its general purpose forces and is pushing ahead with research and development on new generations of weapons for those forces." [Ref. 12:p. 59] Force reductions are beginning to take place, but

the implications of these reductions will require careful evaluation in future years. [Ref. 12:p. 59]

The Soviets and their allies hold a numerical advantage in conventional forces. In addition, the qualitative edge held by NATO is decreasing with the fielding of such systems as the T-80 Main Battle Tank and the Pact's reactive armor program. Furthermore, the Warsaw Pact enjoys the advantage of standardization in doctrine, equipment, and organization. This doctrine stresses offensive action. NATO's doctrine is strictly defensive, consequently allowing the Warsaw Pact the ability to secure the initiative and fix the time and location of their strike. However, the Soviets and their allies do understand and appreciate the numerous uncertainties of any decision to invade NATO [Ref. 12: p. 112]. The Warsaw Pact is a formidable war machine.

IV. NATO DOCTRINE

A. INTRODUCTION

The Western Alliance was not formed to fight a future European war. Instead, NATO's primary goal is to deter this war [Ref. 18:p. 28]. In NATO, extensive consultation takes place. Part of the consultation is for each member to accept possible differences in the views of other members. Military and political leaders possess opinions on how their national armies will fight. The purpose of coalition warfare is to seek a common doctrine which is both cohesive and coordinated. "NATO prefers to deter peacefully the attack through the expression of alliance cohesion and adequate strength." [Ref. 18:p. 4]

Within NATO, deterrence and defense have two separate objectives. Deterrence relates to a peacetime goal. NATO's primary objective is deterrence. Defense connotes a wartime goal. Warfighting, as seen in defense, has taken a second place behind war avoidance [Ref. 18:p. 5]. The two concepts of deterrence and defense are a potential problem for NATO. "Too often the solution to a peacetime problem initiates or compounds a wartime problem...." [Ref. 18:p. 5] One example is the "layer cake" corps arrangement of NATO's Central Region. This "layer cake" displays NATO solidarity. However, the action multiplies interoperability friction within the NATO army groups. [Ref. 18:p. 5]

The defense of western Europe will be a joint operation. A joint operation has two levels. From the perspective of a nation's military, a

joint operation is the integration of air, naval, and land assets into a coherent force. From a coalition aspect, a joint operation is the synchronization of the member nations' combat power [Ref. 19:p. 113]. "The central military task confronting NATO planners is formidable: to integrate the air, land, and sea forces of many countries, each with differing joint tactical doctrines and force structures." [Ref. 19:p. 113]

NATO's warfighting doctrine is difficult to state clearly. This is in contrast to the clearly defined warfighting doctrine of the Warsaw Pact. NATO members are unified against a common threat, but each nation does not follow a detailed shared doctrine. [Ref. 20:p. 7]

This chapter will explore NATO's warfighting doctrine. First, the definition of "strategy" and the three "levels" of war will be presented. The 40-year evolution of NATO doctrine will then be covered. This is followed by a development of "flexible response," which is the current NATO doctrine. Flexible response includes the concepts of forward defense and follow-on-forces attack. In addition, the emphasis that NATO places on winning its tactical battles forward in the corps sectors will be detailed. Finally, the NATO document *Land Forces Tactical Doctrine*, Allied Tactical Publication 35 (ATP-35 A), will be discussed.

B. STRATEGY AND THE LEVELS OF WAR

When an alliance is engaged in a war, it is critical for the coalition to coordinate all actions, from the highest levels of strategy to the lowest levels of tactical execution. A coalition's strategy provides the framework for group cohesion. Alliance cohesion is of particular importance when

the coalition is composed of democratic nations. To be a success, a coalition strategy should address four guidelines. [Ref. 19:p. 51]

A coalition strategy's first prerequisite is to develop a strategy that is based in reality. Detail is constantly changing and the coalition's strategy must be adaptable to this change. A coalition must face certain facts and deal with them effectively. These facts include the coalition's collection of attitudes, perceptions, and character traits [Ref. 19:p. 52]. In addition, an alliance may decide to avoid a particular issue. Avoiding a difficult decision is one approach if the issue is deemed so destructive that the unity of the coalition will be threatened.

A second necessity for a coalition strategy is that it must meet the security needs of all parties. "With specific regard to NATO, a strategy must satisfy two groups: those who emphasize the need to deter conflict and those who emphasize the broader military problem of defending successfully if deterrence fails." [Ref. 19:p. 52]

The third requirement for an alliance strategy is to build confidence within the organization and mutual trust between alliance members. Although complete trust can not be achieved in a diverse grouping of nations such as NATO, the goal is to reach the highest possible level of confidence. [Ref. 19:p. 54]

The fourth aspect of strategy is the requirement to reinforce alliance cohesion. NATO is bonded by a shared risk. The Western Alliance cannot allow a member nation to feel excluded from the group. A successful coalition strategy must create the impression of distributed risk among all members. [Ref. 19:p. 56]

Warfare is divided into three levels of war: strategic, operational, and tactical. The strategic level calls for a nation's military to secure the objectives of national policy by applying force or its threat of use. The operational level controls the use of military force within a military theater of operation. The operational level of warfare seeks to fulfill strategic objectives. "Most simply, it is the theory of larger unit operations." [Ref. 21:p. 2-3] Warfare's third separation is the tactical level. "Tactics are the specific techniques smaller units use to win battles and engagements which support operational objectives." [Ref. 21:p. 2-3]

C. THE HISTORY OF NATO STRATEGY

The Western Alliance's warfighting doctrine is fundamentally defensive. NATO does not plan to invade eastern Europe. NATO assumes that the Warsaw Pact will initiate any assault on western Europe.

The strategy of the Western Alliance has evolved over the past 40 years. The first NATO strategy was "Forward Defense." This strategy, which was adopted in the early 1950s, stressed the use of nuclear weapons. One reason for this stress was the reality that NATO did not possess the conventional forces necessary to provide the perception of a strong conventional deterrent. By 1957, the doctrine of "Massive Retaliation" became NATO's warfighting strategy. Massive retaliation is the immediate release of nuclear weapons against the invading Warsaw Pact. Massive retaliation and its near total reliance on nuclear weapons were not actively supported in many NATO capitals. In 1967, NATO adopted the policy known as "Flexible Response." [Ref. 22:p. 2]

D. FLEXIBLE RESPONSE

In a December 1988 report released by the General Accounting Office (GAO), the authors state that NATO's strategy has 13 policies. These 13 policies were established after research by the Conventional Defense Study Group which was charged with providing the U.S. Congress and the Secretary of Defense with an assessment of NATO and Warsaw Pact balance of forces and ways to improve NATO's conventional defenses. The study group received input from two separate panels of experts concerning their perspectives on both U.S. and Soviet force levels [Ref. 23:p. 2]. This GAO report warns that these policies are not always followed by member nations. The 13 policies specified in the GAO report are:

- Containment (not rollback)
- Flexible response
- Forward defense
- Non-provocative posture
- Central control
- Discourage preemption
- Control escalation
- High nuclear threshold desired
- First use of nuclear weapons, if required
- Minimum civilian casualties
- Minimum collateral damage
- Lowest credible force levels

- Heavy reliance on: CONUS reserves, mobilization, airlift, and sealift [Ref. 23:p. 91]

In 1967, under the title of *Document MC 14/3*, the principle of flexible response was formally adopted by NATO. Flexible response directs the Western Alliance to react to any Warsaw Pact action with an appropriate level of response. Furthermore, NATO reserves the right to escalate a conflict. This escalation includes the use of nuclear weapons. Flexible response creates the element of risk for the Warsaw Pact. NATO's objective is that the threat of nuclear war, with its destruction and uncertainty, will outweigh whatever advantage the Warsaw Pact hopes to achieve by invading western Europe. [Ref. 24:p. 51]

Flexible response is composed of two major concepts: "forward defense" and "follow-on-forces attack." Forward defense is the cornerstone of flexible response. Forward defense seeks to establish a defensive line as close as possible to the border with the Warsaw Pact. NATO will attempt to maintain the territorial integrity of its members. The Western Alliance does not plan to surrender ground after only minimal efforts. The consequence of a forward positional constraint is that NATO's battles with the Warsaw Pact must be fought and won in the corps forward defenses. Each NATO corps must maintain a forward line, shoulder to shoulder with adjacent NATO corps. Battles fought in the corps forward areas place heavy emphasis on the tactical level of war. [Ref. 22:pp. 2-4]

Forward defense was at one time NATO's entire warfighting strategy [Ref. 22:p. 3]. Forward defense has been extensively debated as not making "military sense." However, the defense of West German territory is critical to the people of West Germany. For example, West Germany

has 25 percent of its industry and 30 percent of its population within 100 kilometers of the IGB [Ref. 10:p. 261]. An early loss of these West German resources would severely affect the German will to continue to fight.

Forward defense has its shortcomings, but few realistic alternatives have been presented. Supporting West German interests is a major part of NATO policy. In 1982, the West German Defense Minister Manfred Worner stated:

The principle of Forward Defense is the heart of our strategy and is vitally important to our state and the people who live in it. Alternative concepts which abolish the principle of Forward Defense and substitute a war of attrition waged in our territory are unacceptable. [Ref. 10:pp. 204-205]

The second component of flexible response is follow-on-forces attack (FOFA). FOFA was adopted by NATO in December 1984. FOFA exists to complement forward defense [Ref. 22:p. 4]. Follow-on-forces attack calls for attacks against targets in the Warsaw Pact's rear areas. FOFA heavily relies on emerging technologies. FOFA's goal is to slow the ability of the Warsaw Pact to bring their military forces into the forward battle and to buy time for NATO [Ref. 24:p. 16]. FOFA is a rededication to the proven concept of deep air interdiction. If FOFA is failing, NATO's principle of forward defense combined with nuclear weapons intends to preclude a collapse of NATO's center sector. [Ref. 22:pp. 3-4]

In simple terms, FOFA means using longer range weapons-airplanes, enhanced artillery, rocket launchers, and guided missiles-to attack enemy ground forces that have not come close enough to NATO's defending ground forces to engage them with direct combat. [Ref. 24:p. 16]

Flexible response has its critics. These critics may be placed in two broad categories. The first group are those who feel that *MC 14/3* is an escalation ladder if deterrence fails. "We fight with conventional weapons until we're losing, then we fight with tactical weapons until we're losing, then we blow up the world." [Ref. 9:p. 5] The second group are those who view forward defense as unworkable because NATO's military power is placed too far forward. [Ref. 9:p. 5]

E. THE FLEXIBLE RESPONSE TRIAD

Flexible response is supported by a triad of three components: conventional forces, theater nuclear forces, and strategic nuclear forces [Ref. 24:p. 51]. One problem with this triad is the high costs associated with constructing a "believable" deterrent.

Each leg of the triad cannot be purchased for the same price. For example, of the triad's three legs, conventional forces are the most expensive. Conventional forces must be supported by large numbers of soldiers, weapons, spare parts, training areas, and ammunition [Ref. 10:pp. 259-260]. Many NATO members are reluctant to finance a major conventional force buildup. "Western Europe as a whole has preferred to keep its comfortable standard of living rather than pay the cost of large armies...." [Ref. 10:pp. 259-260]

Compared with the costs of conventional forces, nuclear weapons are cheap. Additionally, nuclear weapons have a high return in their destructive power when compared to their cost. This cost-benefit makes nuclear weapons very inviting to many financially constrained NATO governments. In addition, a nation which has the ability to employ nuclear

weapons belongs to an exclusive group of nations and enjoys a degree of world prestige by belonging to this nuclear club.

F. NUCLEAR WEAPONS AND DETERRENCE

Nuclear weapons are a major part of flexible response. Since World War II, two schools of thought on nuclear deterrence have evolved. One school favors improving NATO's conventional forces to gain more breathing room between the failure of deterrence and the use of nuclear weapons. In other words, this group seeks to increase the nuclear threshold. This first concept is generally held by the United States. The second school of thought seeks an earlier use of nuclear weapons. This early use strategy enhances deterrence by making the consequences of an invasion so terrible that the Warsaw Pact would never attempt an assault. This second approach is supported by many Europeans who criticize the U.S. position because it makes a central front conflict more believable. [Ref. 9:p. 6]

The two opposing outlooks on nuclear weapons are very similar to the two opposing views on what constitutes an effective NATO deterrent.

Europeans generally have identified deterrence as the dissuasion of aggression through threat of punishment. The United States has interpreted deterrence as the dissuasion of aggression through a capability to deny the enemy its objectives. [Ref. 19:p. 109]

This divergence between the two views of deterrence has major implications for NATO's conventional defenses. The European view of deterrence requires small conventional forces with enough strength to handle a limited Warsaw Pact attack. Therefore, NATO does not require large conventional forces because the Western Alliance would rapidly

escalate to nuclear weapons to deter a full-scale Warsaw Pact invasion. The European view seeks a balance between forces which may stop a small-scale assault, but which are not too large to remove the threat of rapid escalation to nuclear weapons. In contrast, the U.S. supports conventional forces of sufficient power to prevent the Warsaw Pact from quickly seizing NATO territory or, through the gradual use of nuclear weapons, to inflict heavy damage on the Warsaw Pact. The U.S. view believes an improved conventional force does not detract from nuclear escalation. This divergence between the U.S. and some European leaders affects efforts to improve NATO's conventional defenses [Ref. 19:p. 110]. The lack of NATO cohesion on conventional defenses creates a coalition atmosphere which is not supportive of compromise or unity with regard to military doctrine.

G. NATO CORPS DEFENSE

NATO wants the battles of a future European war fought near the border with the Warsaw Pact. NATO's goal is not to turn West Germany into one large battle zone. With this fact, forward defense makes the initial corps and division battles extremely important. NATO land forces are focused at winning at the corps level and, to be successful, the NATO corps land forces must win their division-level battles. In light of this, "NATO centralizes the functions of command and control at the corps level." [Ref. 18:p. 9] For NATO, success at the strategic and operational levels of war is based on NATO victory at the tactical level of war.

NATO does not officially acknowledge the operational level of war. The Western Alliance makes a doctrinal jump by passing from the

strategic directly to the tactical level of war [Ref. 18:p. 2]. High-level NATO commanders tend to view theater-level warfare as a series of corps battles. "Therefore, it is a logical evolution that NATO's military consciousness becomes focused on tactics at the expense of operational art." [Ref. 18:p. 8]

NATO's tactical mindset has placed significant responsibility in the hands of its corps commanders. A result of the corps commanders' increased responsibility is that NATO army group commanders have been assigned the mission of providing primarily logistical and resource support. [Ref. 18:p. 9]

Hence, the corps commanders actually control the battle because NATO perceives that only the corps commanders can gain the crucial tactical victories required by strategic aims. The Operational commander is to provide the corps as many resources as possible and as little direction as necessary to harmonize them without hamstringing them. [Ref. 18:p. 9]

NATO's tactical mindset is also seen by its selection of headquarters. When NATO selected the "type" of headquarters to place between the national corps and AFCENT, it picked the smaller army group instead of the field army headquarters. "The army group matched the authority NATO and its members wanted to give its commander." [Ref. 18:p. 10]

An army group headquarters is normally an organization without organic combat support units or sizable reserves [Ref. 18:p. 10]. In contrast, the field army headquarters is a much stronger organization. Doctrinally, the field army headquarters is more powerful because it is usually assigned a larger number of organic resources. The field army

commander is traditionally more able to influence his subordinates by the assignment (or denial) of the field army's larger resources.

The current NATO army groups do not have sufficient assets to fully influence the battle.

A NATO Army Group command, without the assets and the authority to employ them, "cannot directly affect the course of battle and is therefore no command at all, but simply a switchboard or possibly a bottleneck in the information flow between commands at higher and lower levels." [Ref. 18:p. 10]

A NATO army group commander is not totally powerless to influence the defense of his sector. He has limited resources and is able to influence his corps commanders by exercising his role as their assigned military commander. However, NATO's emphasis on the tactical level of war hinders his ability to fully influence the battle.

Success with NATO's tactical mindset means all eight national corps, in their sectors, must individually defeat their Warsaw Pact's attacks. If one NATO corps fails, the adjacent NATO corps must adapt to the "new" boundary or be placed in great risk as the Warsaw Pact exploits the penetration. Additionally, NATO's tactical mindset creates another problem. A penetration in one national corps has the potential to unhinge the entire forward defense. There is a strong chance that the Warsaw Pact will mass enough combat power against one corps to gain a local advantage of possibly five or six to one [Ref. 18:pp. 14-15]. A combat ratio of this magnitude will greatly increase the probability of a Warsaw Pact breakthrough.

...it is of little matter if heavily defended NATO corps conduct a cohesive defense if lightly defended corps can be penetrated and the

theater exploited... Therefore, success requires more than the conduct of a cohesive defense by individual corps. [Ref. 18:p. 15]

A strategic forward defense is vulnerable to penetration. If a penetration of NATO's forward defenses does occur, NATO commanders must have the ability to quickly react and attempt to regain the initiative. NATO's attempts to regain the initiative may include crossing national corps boundaries and counter-attacking into the flanks of the Warsaw Pact. If the defending NATO units do not react in a timely manner, the initiative would remain in the hands of the Warsaw Pact; this could quickly lead to the defeat of NATO. With NATO's tactical mindset, the NATO layer-cake defense, and a forward linear structure, NATO commanders may not have the operational agility to handle a situation such as a rapid Warsaw Pact breakthrough [Ref. 18:pp. 18-19]. One NATO effort to "unify" the NATO national corps is a coalition warfighting doctrine which is found primarily in ATP 35 A.

H. ALLIED TACTICAL PUBLICATION 35 A

NATO's current warfighting doctrine is a product of political and military compromises which have taken place over four decades. NATO does not have a clearly defined warfighting doctrine. This ambiguity is "...compounded by a cacophony of national doctrines from each NATO member." [Ref. 18:p. 22] However, NATO does make an effort in ATP 35 to create some type of formalized doctrine.

ATP 35 divides NATO defenses into three broad areas: the covering force area, the main battle area, and the rear area.

This three-tiered organization of the battlefield is all that NATO's doctrine calls for. Within this framework, each ally is free to

establish an operational concept for defending its corps sector in the Central Region. [Ref. 19:p. 138]

The members of NATO express some support for unified effort and harmony, but their operational doctrines do not demonstrate this harmony [Ref. 19:p. 138].

In any case nothing particularly brilliant in the way of manoeuvre could be expected of the NATO forces as they are at present constituted, for the variegated national corps structure is a "mighty impediment to good command and control." [Ref. 10:p. 261]

Many NATO commanders express concern over the existence of the wide number of divergent national doctrines, but creating a flexible integration of these multinational units into an unified effort will be difficult.

Commanders and staffs at all levels are required to become very familiar with allied doctrine, procedures and terminology. Otherwise, this could result in grave miscalculations by national and NATO military commanders unaware of differences and unable to impose unity of effort. [Ref. 18:p. 25]

NATO warfighting doctrine is not easily defined. Forming a cohesive doctrine for the Western Alliance is still an unsolved problem.

If called upon to defeat successful. a Warsaw Pact invasion, NATO armies must synchronize the defense under a shared Operational art. "...blending the doctrinal philosophies and practical aspects of the several NATO partners into a cohesive, energy-charged battle force raises discomfoting speculation on its effectiveness...This is not measurable and by its nature is certainly subjective, but may be NATO's most significant weakness and the one with the greatest potential for exploitation by the Soviets." [Ref. 18:pp. 1-2]

The eight forward corps of NATO are composed of units from five national armies. These national units must maintain a forward defense against a powerful enemy which has the ability to select the time and location of his attack. These NATO corps must fight and win the forward

battle; if not, the Western Alliance could face a quick defeat. NATO must face this Soviet challenge without a unifying doctrine. This lack of a coherent NATO doctrine does not reinforce the perception of deterrence, makes NATO corps boundaries more vulnerable, and presents the Warsaw Pact with a major opportunity for exploitation.

V. THE CORPS, C³, AND COORDINATION

A. INTRODUCTION

Deployed along NATO's Central Front are eight corps from five nations. If war breaks out in Central Europe, these national corps will carry the brunt of the ground fighting. For NATO's corps to be successful, warfighting must be coordinated from the highest levels of NATO policy to the lowest levels of execution.

The boundaries between corps and all military units are vulnerable to exploitation. In a future European war, the Warsaw Pact will be the offensive force and, consequently, has the ability to select the time and location of its assault. Initially, the Western Alliance will be on the defensive and forfeits the initiative to the attacker. For NATO to have a greater chance of absorbing the initial Warsaw Pact assault, the national corps must conduct boundary coordination as they recoil from an attack. If proper boundary coordination is not completed, the chance for penetration of NATO's forward defense will be enhanced.

The primary documents used to develop the corps are the U.S. Army's Field Manual (FM) 100-5, *Operations*, and FM 100-15, *Corps Operations*. By explaining, from at least the U.S. perspective, what the "ideal corps" is, a level of understanding is developed for a later analysis of NATO's center sector corps.

The approach for this chapter will be to determine what a corps is, what NATO C³ is, and how coordination is accomplished. In this chapter,

particular emphasis is placed on issues such as the role of doctrine in a military coalition, the special requirement for consultation in NATO, and the concept of synchronization. Finally, this chapter will present two examples which demonstrate the importance of synchronization and coordination. The concept of synchronization will be shown in the actions of General George Patton's Third Army during the Battle of the Bulge. In addition, the need for coordination will be developed by comments regarding potential boundary problems between two national corps in NATO's center sector.

B. WHAT IS A CORPS?

The corps structure is not new for NATO's national armies. The first corps was fielded by Napoleon during the French Revolution. The corps is formed to perform operational and tactical level tasks. The composition of the corps is established by an analysis of the missions assigned, the expected length of operations, the enemy, the terrain, and the resources available. A corps conducts three major types of operations: defensive, offensive, and exploitation. In most situations, the corps will execute these operations as part of a larger force. This larger force (in the case of NATO, the army group) assigns the corps appropriate objectives which should fit into a logical train of events leading to a desired outcome. Usually, the corps supervises the tactical operations of subordinate divisions and forces. In most cases, the army group will assign the corps additional assets (e.g., reserves and logistical support). As explained in Chapter IV, however, this is not always the case in NATO. [Ref. 25:pp. 1-1 to 1-4]

The corps in NATO's Central Region do not all have the same organizational structure. To fully develop the organization of each NATO corps is beyond the scope of this paper. However, this next section will discuss the structure of a U.S. corps. The remaining NATO Central Region corps possess some structural similarities with a U.S. corps.

U.S. corps are classified as either forward deployed or contingency. This classification is based on the location of the corps and the missions assigned. A forward deployed U.S. corps is found in an established theater of operations under the control of the United States or as part of an allied coalition (see Figure 6 for a diagram of a forward deployed U.S. corps [Ref. 25:p. 1-7]). The forward deployed U.S. corps in Europe, like the V and VII U.S. Corps, operate under a NATO army group. During peacetime, a forward deployed corps works from fixed bases and is generally able to maintain its equipment in a high state of readiness.

There is no standard U.S. corps organization. A U.S. corps is organized after an examination of doctrine and a mission analysis [Ref. 25:p. 1-10]. Normally, a corps has from two to five divisions, aviation assets, a corps support command, and a number of specialized units which support specific corps functions. These specialized units range in size from brigades to companies or smaller detachments and provide combat, combat support, or combat service support assistance [Ref. 25:p. 1-6]. A contingency corps has a more flexible structure and is tailored to conduct specific operations in different areas of the world.[Ref. 25:pp. 1-10]

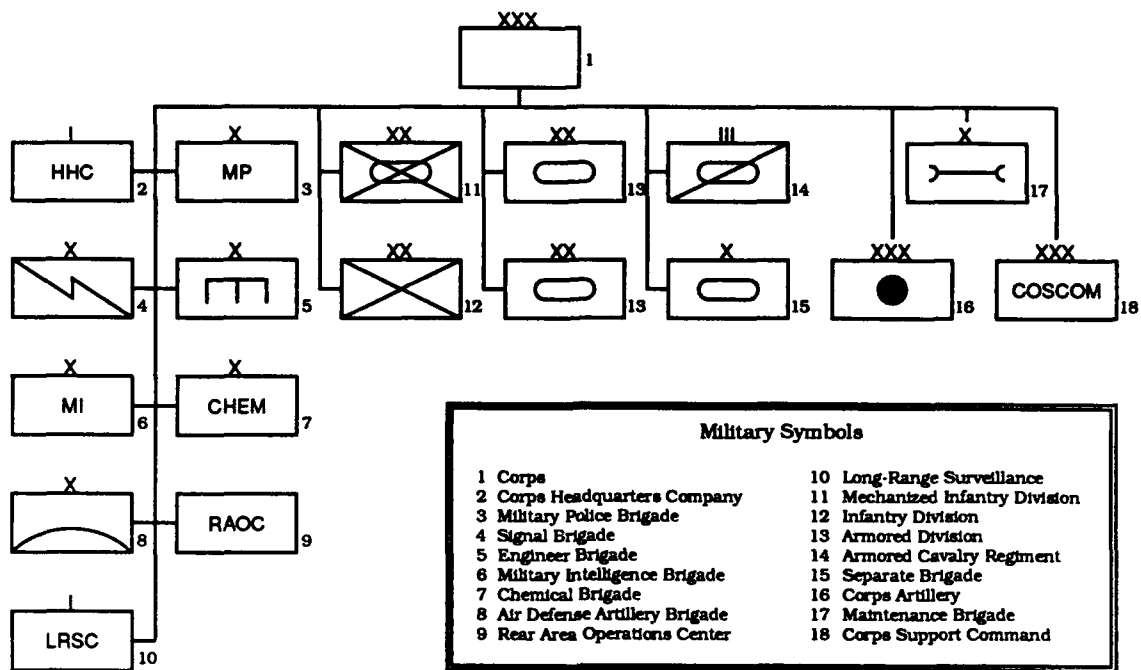


Figure 6. **Forward Deployed U.S. Corps**

The next section will develop certain aspects of command and control. In particular, this section will cover some of the special needs for NATO's command and control structure.

C. **WHAT IS COMMAND, CONTROL, AND CONSULTATION (C³)?**

Command and control is a complex phenomenon. There is still debate on the best definition of this phenomenon. The U.S. Military's definition of command and control (C²) is: "Command and control is the exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of the mission." [Ref. 26:p. 8]

To assist the commander in exercising his authority, various C² functions are required. These functions are performed by: "...an arrangement of personnel, equipment, communications, facilities, and

procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission." [Ref. 26:p. 9]

The command and control functions take place within a system. NATO's command and control system has the added requirement for consultation. Each member of NATO possesses an "equal" vote over critical NATO Council decisions. To reach a consensus on alliance goals, extensive consultation between states must take place.

To control an organization such as NATO, the military-political leader performs various tasks, one of which is synchronization. Synchronization is the concentration of combat power in time and space. Synchronization is the commander's most important task [Ref. 25:p. 1-4]. Synchronization will be discussed in detail later in this chapter. However, questions such as "How does the commander synchronize his forces and what guidelines does he follow?" must be kept in mind. Furthermore, when the commander is physically removed from the fighting, he must use indirect means to achieve synchronization. One of the means to accomplish synchronization is through the use of common organizational procedures. These procedures are found in sources such as a nation's or coalition's military doctrine. [Ref. 26:pp. 20-25]

One example of doctrine is the U.S. Army's Airland Battle. This U.S. doctrine is a common organizational procedure and assists in the synchronization of U.S. forces. Airland Battle will be discussed in Chapter VI. The doctrine of Airland Battle is described in the U.S. Army's, Field Manual (FM) 100-5, *Operations*. As stated in Field Manual 100-5:

Subordinate leaders must align their operations with the overall mission. They must develop opportunities that the force as a whole can exploit. Large unit commanders must encourage initiative in their subordinates...Success on the modern battlefield will depend on the basic tenets of Airland Battle doctrine: initiative, depth, agility, and synchronization. [Ref. 21:p. 2-1]

Airland Battle doctrine is used by the U.S. commander to help in the synchronization of his organization. Airland Battle doctrine provides a general framework for commanders at all levels to use as a guide when they make decisions. If a commander is unable to directly influence the battle, his subordinates may rely on principles found in sources such as a nation's warfighting doctrine. From a different viewpoint, if a subordinate commander is in doubt regarding what to do and he is not able to reach his senior commander, the tenets of a doctrine, like Airland Battle, should guide his efforts and contribute to overall organizational synchronization and coordination.

In summary, command and control functions coordinate military power. Furthermore, the command and control system provides the framework through which the commander communicates his intent to subordinates and supervises execution. In NATO, consultation is needed to align each member behind a common goal. Synchronization is important to an organization. One means of achieving synchronization is through a common military doctrine.

D. WHAT IS MILITARY DOCTRINE?

Military doctrine has many definitions.

Military doctrine is an important, if often misused concept. It can best be defined "...a body of theory which describes the environment within which the armed forces [of a state] must operate and prescribes the methods and circumstances of their employment. The

primary function of such doctrine is to maximize the effectiveness of a state's military capabilities in support of national objectives. A country's military doctrine thus formulates the principles, objectives and best means according to which that state, primarily in peacetime, prepares for the eventual contingencies where military force may have to be brought to bear, in peace or war." [Ref. 27:pp. 4-5]

Military doctrine is used by the commander in his task of synchronization. This common body of theory assists in focusing an organization towards a common goal. If a doctrine is vague or misunderstood, the full advantage of synchronization may not be realized.

It must also involve our allies to ensure the doctrine is agreeable to NATO military and political leaders. Any intellectual vacuum must be attacked so future applications of the doctrine are predicted and refinements made. [Ref. 28:p. 35]

If a doctrine established at the highest levels of a military alliance is not understood, the end result could be an organization lacking unity. As noted by historian I.B. Holley:

Doctrine is like a compass bearing, it gives us the general direction of our course. We may deviate from that course on occasion, but the heading provides a common purpose to all who travel along the way. This puts a grave burden on those who formulate doctrine, for a small error, even a minute deviation, in our compass bearing upon setting out, may place us many miles from the target at the end of our flight. If those who instill doctrine from experience or devise it by logical inference in the abstract fail to exercise the utmost rigor in their thinking the whole service suffers. As the old Scot preacher put it, a mist in the pulpit is a fog in the pews. [Ref. 29:p. 14]

A coalition is a special type of military organization. The operation of a coalition requires different procedures, as compared to a nation acting alone. Some of the special requirements for a coalition will be discussed in the next section.

E. SPECIAL NEEDS OF COALITION WARFARE

Throughout the history of the western world, there appears a series of wars. Most of these wars have been fought as one collection of nations fighting another group of nations. [Ref. 30:p. 5]

To organize and focus a coalition is a difficult task. This task is made increasingly complex when the states are independently minded, democratic nations. In contrast, a coalition overshadowed by one power creates a much simpler process. For example, of the nations belonging to the Warsaw Pact, the Soviet Union is the dominant member and has a major voice in virtually all actions [Ref. 30:p. 6]. The internal dealings of NATO are much different than the Warsaw Pact. The United States is the commonly accepted leader of NATO, but "...if the Norwegians don't like the fact that we are developing an artillery shell instead of getting it from Königsberg, they tell us to go fly a kite." [Ref. 30:p. 6]

Consultation between states is a critical part of the NATO coalition. How is a common doctrine achieved in a coalition? Marshall Foch once said, concerning a doctrine for coalition war, it "...consists first in a common way of objectively approaching the subject; second, in a common way of handling it." [Ref. 31:p. 13]

During NATO's 40 years of existence, the alliance has been trying to be a coalition of equal states. Diplomacy has been a part of this approach. Ambassador Robert Komer, the former Under Secretary of Defense for NATO Policy and ambassador to Turkey stated:

Yelling at them isn't good enough; I tried that. You've got to make deals and tradeoffs...We have to be much more practical at working out this sort of scheme. Changing the mindset, overcoming

bureaucratic inertia, and concocting tradeoffs too good to refuse—these are practical ways of doing business. [Ref. 30:pp. 6-7]

A successful alliance is an organization which suppresses nationalistic priorities for the common good. An effective coalition must have a system to express the member nations' operational priorities [Ref. 31:p. 13]. For NATO to be a successful alliance, the thinking of all nations must follow a coalition approach. For example, the decisions of the U.S. or West Germans, or other NATO members, must be made in the context of their impact on NATO. This coalition approach stresses that working together is more efficient than pulling apart. As stated by Ambassador Komer in a 1983 speech, NATO must start "...getting governments to realize that cooperation is going to be more cost-effective than the non-cooperation we largely practice today." [Ref. 30:p. 9]

NATO is a political and military alliance. This combination places special demands on its command and control system. Furthermore, the necessity of consultation is a critical requirement for a coalition. Consultation places additional pressures on NATO's command, control, and consultation system. Synchronization is an important part of an organization. Synchronization is assisted by means such as a common coalition doctrine. Finally, a coalition approach should be used by NATO members for the more efficient working of their alliance.

F. SYNCHRONIZATION

The term synchronization has appeared throughout this chapter. The purpose of this next section is to provide a greater understanding of synchronization. Synchronization is a complex idea. This section will

present a definition of synchronization and a discussion of synchronization in NATO. Following this discussion, the concept of combined arms will be developed, followed by a historical example of synchronization. The Battle of the Bulge and General George Patton's Third Army will provide an example of the successful use of synchronization.

A NATO and Warsaw Pact war will be violent and confusing. The corps commander must be able to shift his forces to the decisive location at the most effective time.

This process of concentrating the combat power of the corps is the synchronization aspect of corps operations. It is the primary task of the corps commander. [Ref. 25:p. 1-4]

A military commander must use all his available assets, at the correct time and to their fullest potential. In particular, if a commander is fighting outnumbered, not properly using his limited resources would increase his chances for defeat.

The goal of synchronization is to obtain the greatest possible combat power from available military forces. Additionally, synchronization is much more than ensuring all units are coordinated. If an operation is synchronized, the effects of single units or weapons are increased far beyond their individual effects. [Ref. 21:p. 2-3]

It [synchronization] results from an all-prevailing unity of effort throughout the force...Synchronized, violent execution is the essence of decisive combat. [Ref. 21:p. 2-3]

In NATO, synchronization takes place on two levels. The first level is synchronization between a nation's ground, air, and naval units. The second level of synchronization is between the military forces of different nations.

Achieving synchronization in any military unit is difficult, and for NATO it is even more challenging. The Western Alliance must achieve harmony on both levels of synchronization. Furthermore, NATO forces are not totally complementary. For example, synchronization is complicated when adjacent units could be speaking a different language; have varying standards of morale and training; or have different communication systems, varying organizational structure, and different types and numbers of weapons systems. This adjacent unit also may have an entirely different concept of "how to fight."

The term "combined arms" appears in military literature. Combined arms is when two or more arms in mutual support produce complementary and reinforcing effects that neither can obtain alone. From a tactical level, combined arms is when different types of units (such as armor and mechanized infantry) coordinate their efforts. The armor and infantry units receive support from artillery, engineers, aircraft, and air defense units which assist the maneuver of the direct combat units. For example, when an armor unit is moving through an urban area, infantry units provide protection to the tanks as they move in the urban terrain. On the other hand, armor will provide protection to the infantry in more open terrain. Without the protection of infantry inside a city, armor vehicles are at risk because many of a tank's advantages, like speed, are reduced inside the confines of a city. Some of the same advantages of combined arms take place at higher levels of war.

At the operational level, units of corps and division size maneuver to envelop, penetrate, or block enemy forces [Ref. 21:p. 7-4]. Air assets are

used to support the corps in its maneuver. These air units may perform missions such as air interdiction, deep attack, the aerial resupply of forward units, or the airlifting of military units. We will find in the upcoming example of the Battle of the Bulge that the use of air assets, in the combined arms sense, was a major factor in the U.S. victory. Additionally, combined arms support may take place with naval assets, to include naval air support, naval gunfire, or logistical resupply from off-shore ships. Special forces operations may also contribute to the overall maneuver of the corps by reporting on enemy movements or by destroying critical enemy assets. To achieve the greatest return from his military forces, a military commander must synchronize his units—this includes using the advantages of combined arms.

Although Airland Battle will be described in greater detail in Chapter VI, synchronization is a major tenet of this doctrine. Airland Battle doctrine is used by the U.S. commander to assist in the synchronization of his units. Additionally, synchronized operations achieve the maximum return from a unit's combat power. The linkage between synchronization and combined arms (from the perspective of Airland Battle) is found in the following quote from the U.S. Army's Field Manual 100-5, *Operations*.

Synchronized, violent execution is the essence of decisive combat. Synchronized combined arms complement and reinforce each other, greatly magnifying their individual effects. [Ref. 21;p. 2-3]

The principle of combined arms is a major part of synchronized combat actions. Additionally, the benefits of combined arms occurs from the tactical level of war to the operational and strategic levels of warfare.

NATO commanders seek the same advantages achieved through combined arms action. NATO commanders may task-organize their forces to achieve the most potent mix of army, naval, or air units. The NATO commander has the additional requirement of mixing the different types of units from a wide number of nations. In addition, each nation has a varying concept of how best to fight the enemy. To successfully accomplish the mixing of these units, the NATO commander must synchronize the actions of the various forces.

In the U.S. Army's Field Manual 100-5, it states, "Complementary combined arms should pose a dilemma for the enemy." [Ref. 21:p. 7-4] Unfortunately for the Western Alliance, NATO's divergent forces and doctrines create a "dilemma" for the NATO commander, who is trying to form a cohesive military force. The NATO commander must overcome these problems and others, all of which hinder his efforts in achieving the most effective combined arms actions of his national units.

NATO's effort to achieve synchronization is not a new problem for military units. Military history provides many examples of successful and unsuccessful efforts to achieve synchronization. One example of successful synchronization was the campaign fought between mid-December 1944 and mid-January 1945 by General George Patton's Third Army. Patton's campaign started in response to the German Ardennes Offensive, often known as the Battle of the Bulge. Winston Churchill once described U.S. actions during the Battle of the Bulge as the greatest American battle of World War II [Ref. 32:p. 207]. (See Figure 7 for a map of the Battle of the Bulge [Ref. 32:p. 214].)

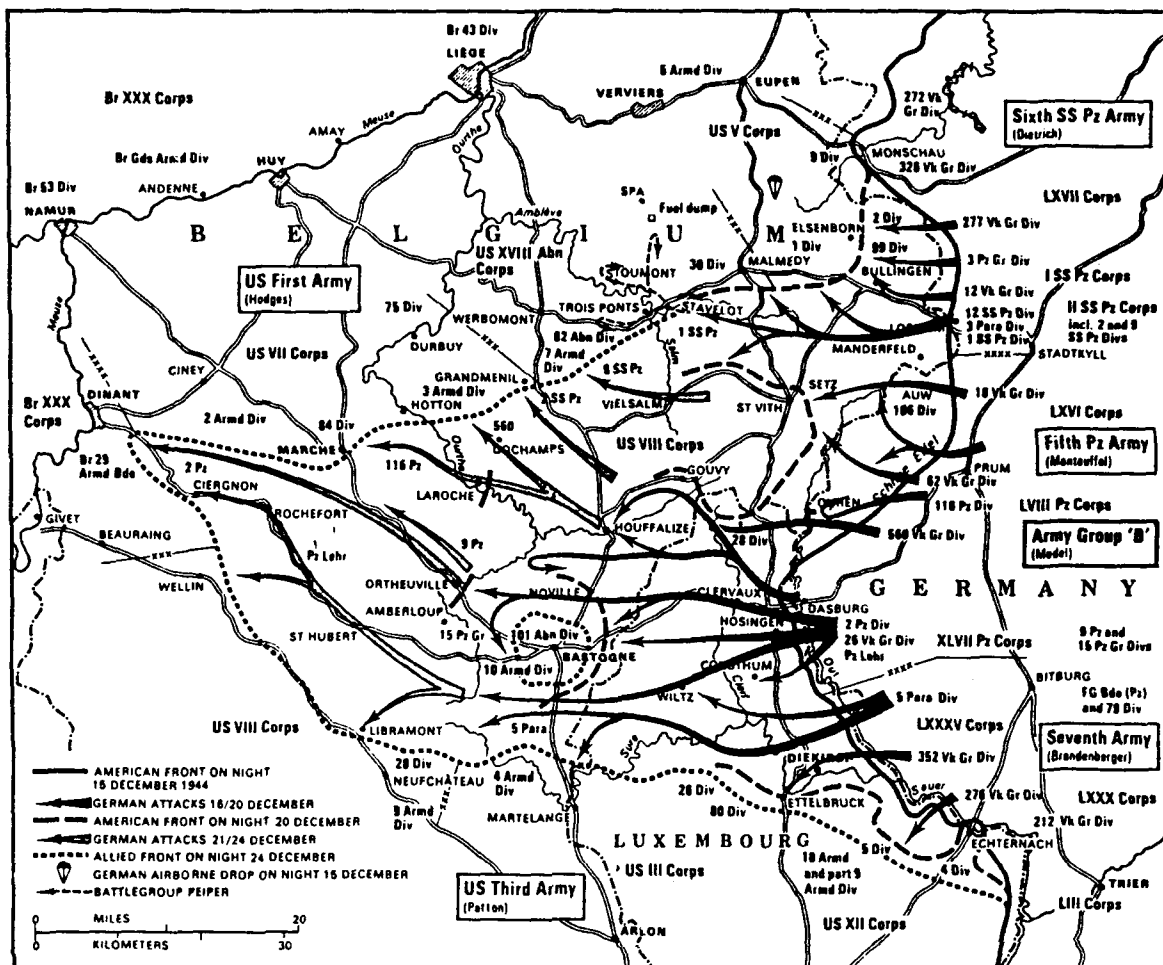


Figure 7. Map for the Battle of the Bulge

The German offensive of 15 December 1944 severely buckled and cracked portions of the U.S. frontlines. After several days of heavy fighting, elements of the U.S. 10th Armored Division and the U.S. 101st Airborne Division were surrounded inside the town of Bastogne. Bastogne was the junction of seven paved roads and the key to the defense of the Ardennes region.

Patton's Third Army was located to the south of the Ardennes and was not directly attacked. The Third Army was preparing for its own

offensive, which was to start on 17 December 1944. Patton realized that his offensive might have to be postponed. He directed his staff to prepare plans to change the entire orientation of his army (which was facing east) to the north and attack into the flanks of the German forces surrounding Bastogne. On 19 December 1944, Patton was ordered to accomplish this change and his army had to be at its new north start line by 22 December 1944.

...racing against time to shift a three corps, north-south battle line to a four-corps line running east-west in the Saar. Hundreds of units had to be moved quickly and efficiently...Thousands of miles of telephone had to be laid and an entire communication network, capable of remaining operational despite both cold and enemy attack, had to be established. A new supply system had to be set up, and thousands of tons of supplies shifted for distribution or storage in new depots and dumps...At 0600 on 22 December, right on schedule, III Corps attacked. [Ref. 32:p. 215]

The Third Army began its attack under terrible weather conditions. The U.S. assault was hindered by fog, a blizzard, and below-freezing temperatures. However, on 23 December the weather cleared and Allied aircraft were able to assist the advance of the Third Army. Allied tactical aircraft and bombers flew non-stop in support of American units in and around Bastogne. This air support continued into the night when the U.S. forces received cover from a night-fighter (P-61) squadron. U.S. Air Force (Army Air Corps) assistance to ground units included the air-dropping of supplies to the Americans inside of Bastogne. Additionally, some American wounded were flown out of Bastogne using small observation aircraft. The U.S. control of the air by its aircraft eventually forced the Germans to move at night to avoid the worst of the air assaults and to fight from prepared positions during the daylight. U.S. air attacks

coordinated with the ground assault greatly contributed to the success of the Third Army. [Ref. 32:pp. 216-220]

The Germans never thought that Patton could "turn" an entire army and attack so hard in such a short time. The U.S. Third Army drove north against heavy German resistance and terrible weather to link up with U.S. forces inside of Bastogne. What Patton had done was to change the Third Army into a well-knit team capable of executing a complex task under difficult conditions. With his well-trained army, Patton was able to synchronize his assets in a timely manner, with the end result being the ability to perform a challenging mission such as the U.S. counterattack against the southern flank of the German penetration.

Though his reputation [Patton's] was made as a tank commander, his army's success at the Bulge depended far less on spectacular tank battles than on the superb coordination of armored, infantry, artillery, air and support forces. [Ref. 32:p. 221]

The corps was one of the major building blocks for Patton's counter-attack. The essential coordination aspects of a corps will be covered in the next section.

G. COORDINATION BETWEEN CORPS

According to the U.S. Army's FM 100-15, *Corps Operations*, one major mission of U.S. corps in NATO is to establish interoperability with adjacent corps. This interoperability includes the following issues:

- Tactics
- Maneuver
- Procedures for Exchanging Intelligence
- Fire Support

- Obstacles
- Deception
- Command, Control, and Communications
- Logistics
- Rear Area Security
- Nuclear, Biological, and Chemical Warfare
- Host Nation Support [Ref. 25:p. 1-8]

The need for coordination between corps is critical for a number of reasons. For example, understanding how a corps fights or how it will maneuver is important to an adjacent corps. This understanding is of particular importance when both corps are seeking to maintain a coherent line of forward defense against the Warsaw Pact. At a minimum, understanding how the adjacent allied units fight—their terminology and doctrine—will be important for successful corps operations. Furthermore, maneuver interoperability implies that NATO partners learn to employ each other's maneuver forces. This maneuver interoperability requires establishing and practicing operational procedures. [Ref. 25:p. 1-8]

H. THE COORDINATION PROBLEM

In a report, "Problems of Command and Control in a Major European War," NATO and Warsaw Pact command and control processes were examined. This examination included the problem of NATO achieving effective internal coordination. An example of potential coordination problems will be detailed in a later example which describes actions between the V U.S. Corps and the III West German Corps. To emphasize

the importance of coordination, the authors of "Problems of Command and Control in a Major European War" stated:

Coordination is the Achilles heel of the organizational strategy of overcoming cognitive limits through specialization and division of labor. The efforts of numerous individuals and separate groups of individuals must be structured to form coherent and useful patterns of activity. But this structuring task itself can easily become so complex as to overwhelm the cognitive capacities of those who must carry it out. Indeed, the high frequency of "coordination failure" suggests that such problems commonly occur. [Ref. 20:p. 8]

Organizations solve coordination problems in one of two ways. One technique is to divide the primary task into a series of subtasks. These subtasks are developed such that subunits can effectively execute all their actions without regard to other subunits. However, few missions are effectively decomposable in the long run [Ref. 20:p. 26]. "Unfortunately, organizational subunits often act as if their tasks are decomposable when they are not: the Army builds tanks that will not fit inside Air Force cargo planes...." [Ref. 20:p. 26]

A second technique in solving a coordination problem is to rely on hierarchy as a means for structuring tasks, communications, and authority. In a hierarchical organization, large numbers of subunits can be coordinated even when actual interaction between subunits is limited. [Ref. 20:p. 26]

A military commander is assigned a mission and a given amount of resources. A commander may be called upon to solve an abstract problem, such as defending the Fulda Gap. Executing this type of mission is a complex task. He solves this complex mission by subdividing the larger task into subtasks for his subordinates. This subdivision process

continues, in each level of command, until it reaches the individual soldier.

In practice, however, human organizations must overcome a fundamental difficulty; namely, the necessity of assuring that the pattern of activities being carried out by individuals in various sub-units of the organization fit together in a relatively coherent fashion that results in progress toward the organization's fundamental objectives. [Ref. 20:p. 27]

When the primary unit's mission is subdivided into smaller tasks, the original purpose of the primary task may become diluted. Six coordination mechanisms provide a means to avoid this problem: direct supervision, mutual adjustment, and standardization of work processes, outputs, skills, and norms [Ref. 33:p. 4]. These six coordination techniques will help the military commander achieve harmony of individual and collective efforts.

In a military unit, direct supervision is a common type of coordination. Direct supervision is when a leader exercises control over his subordinates by allocating resources or by influencing the behavior of subordinates. [Ref. 20:p. 28]

Mutual adjustment is the second coordinating mechanism.

Here, two or more actors agree to share resources and to confer with one another concerning decisions that affect the outcomes of those involved. In the resulting joint decision making process, none of the actors is likely to dominate the others. [Ref. 20:p. 28]

Standardization of skills is the third coordination mechanism. Standardization of skills is accomplished by an organization's members having worked together, having been educated in similar military schools, or having received similar training. The goal is to train all members to the same standards and make them as "interchangeable" as possible.

The standardization of processes and outputs is the next means of coordination. These two types of coordination are accomplished by tools such as standard operating procedures (SOPs). Standardization of processes and outputs allows military operations to take place with a minimum need for planning, effort, and direct supervision. Through SOPs, the commander is able to influence the actions of subordinates by creating procedures governing their actions under specific circumstances. A process becomes more ingrained the longer a subunit uses the SOPs of the parent organization.

Moreover, subunits can coordinate with one another purely on the basis of shared expectations. No direct communication is necessary if each subunit can anticipate which SOPs other subunits will implement and what the outcomes will be. [Ref. 20:p. 28]

The standardization of norms is the sixth means of coordination. When a commander is assigned a mission, he will seek to motivate his unit towards mission accomplishment. He does this by ensuring that all subunits understand their place in the larger plan and by encouraging esprit. The commander hopes that if the situation becomes difficult, the subunit will still seek to accomplish its mission. Additionally, a unit which feels cohesive will likely be more cohesive when stressed. Cohesion will help the unit reach a state of equilibrium instead of disintegrating.

I. HOW IS NATO COORDINATION ACHIEVED?

Coordination in NATO is accomplished by using the six coordination mechanisms. For example, NATO coordination is achieved by means which include direct supervision, NATO standardization documents, common procedures and collective training.

NATO commanders command very little in peacetime. NATO is an organization which receives the bulk of its combat power in an emergency and only after the national units are released by their respective governments. In addition, diplomatic skills are imperative for NATO military commanders as they work within NATO's political/military structure.

Direct supervision is difficult to achieve in NATO's political/military structure. Sixteen coequal peers cannot be directly told what to do. In NATO, if a subordinate commander receives guidance from NATO which he does not support, he may seek to appeal the issue back to his national government or to a fellow countryman further up the NATO chain of command.

In contrast to direct supervision, mutual adjustment is more commonly used in a peacetime NATO. Building consensus and the practice of compromise are often used to achieve a unified NATO effort. For example, one single nation, like Iceland, could refuse to ratify a NATO action. This failure to reach total agreement among the 16 NATO members would stop the NATO action. To avoid this indecision, mutual adjustment is widely used to achieve coordination.

Standardization of processes is the next means of NATO coordination. The Western Alliance has several committees whose mission is to seek interoperability and consensus on critical NATO issues. Once consensus is reached, these groups publish documents such as Standardization Agreements (STANAGs) and Allied Tactical Publications (ATPs).

With the publication of STANAGs or ATPs, NATO hopes that this new concept will become part of each member nation's military procedures and doctrine. The goal of these efforts is to permit the multinational forces to operate smoothly and effectively together. [Ref. 21:p. 17-4]

Conducting peacetime, multinational training is another means of coordination. These exercises would lead to the standardization of skills among members. Furthermore, these exercises would develop procedures which should be the basis for wartime operations. For example, these training events develop liaison teams which operate between multinational units. The liaison teams will have tasks such as coordinating intelligence, fire support, combat service support, and host nation territorial forces. Without these liaison teams, the boundaries between forces of different nations would become increasingly vulnerable. [Ref. 21:p. 17-5]

NATO hopes to achieve standardization of norms by stressing cohesion among its members. Achieving unity among 16 democratic nations requires great effort. However, democratic nations have been unified in past wars against a common threat. NATO's problem is to properly manage the emotional energies of its democratic members.

J. THE FULDA GAP AND THE U.S. V CORPS AND WEST GERMAN III CORPS

The Fulda Gap is a CENTAG responsibility. The V U.S. Corps and III West Germany Corps guard the Fulda Gap and each must be prepared to stop any Warsaw Pact assault. Both corps are fully prepared for combat and do not suffer from acute equipment shortages or serious

maldeployment problems. These two national corps must achieve coordination along their shared border.

What are the problems of interoperability at this common border? One problem is the differences between national warfighting doctrines. The U.S. will fight using the Airland Battle doctrine and the West Germans will follow their mobile defense doctrine. The American and West German commanders must synchronize their actions after taking into account their two diverse warfighting doctrines. In addition, the exchange of intelligence, fire support, and operational plans will take place using liaison teams. These liaison teams are of critical importance because the tactical-level U.S. and West German radios are not fully compatible. The liaison teams will seek to achieve coordination across the language and distance barriers and still provide timely guidance to their respective commanders. It is open to debate whether or not this structure will be able to produce timely coordination in the hostile environment of a massive Warsaw Pact assault.

The Fulda Gap is one of the most studied avenues of Soviet advance into West Germany (see Figure 8 for a map of the Fulda Gap. [Ref. 10:pp. 304-305]). However, there is no clearly defined "gap" in the Fulda region. Instead, this corridor is a zone of relatively accessible terrain which starts in East Germany and extends to the outskirts of Frankfurt. [Ref. 10:p. 306]

Leading in and out of the Fulda Gap is a road network of strategic importance. The Fulda Gap's road network is well developed on both

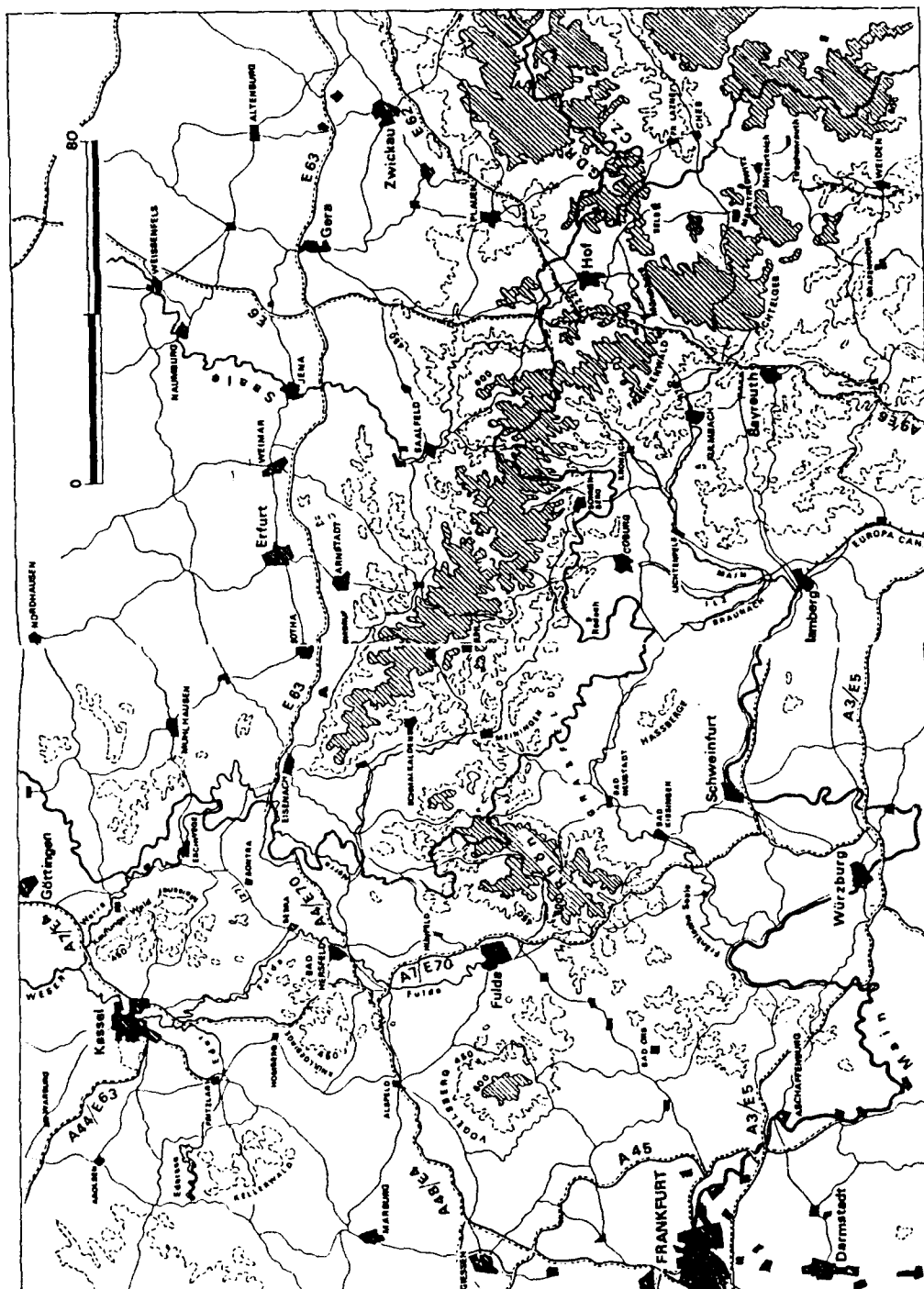


Figure 8. The Fulda Gap

sides of the IGB. For example, in the vicinity of the Eighth Soviet Guards Army is the East German autobahn E63. Additionally, the Soviet First Guards Tank Army may easily gain access to E63. The E63 connects these Soviet garrisons with the Fulda Gap. When the E63 crosses the Inner German border, it becomes the West German autobahn A4/E70. This West German autobahn leads into another high-speed avenue of approach, the A48/E4, which takes a traveler directly to downtown Frankfurt. Also, as the Warsaw Pact attacker moves west, toward Frankfurt, the terrain becomes more open and the defense will be based on a series of hill masses [Ref. 10:pp. 306-307]. "Behind Bad Hersfeld the road network branches out in a wide arc and here the German and American forces will probably resort to a defense in depth...." [Ref. 10:pp. 306-307]

The border between the U.S. V Corps and West German III Corps is located less than 10 kilometers from this critical autobahn system. Although the responsibility for the defense of the E70 has been defined, its location next to the border between two national corps could be a problem. There is a high probability that the Warsaw Pact will advance down this very lucrative E63-E70 corridor.

Units in combat naturally "close in" and do not normally "expand" when in contact with an enemy. It is likely that the U.S. and West German corps would not draw together when each corps becomes engaged and begins to receive heavy losses [Ref. 34]. If the two national corps "contract" and "draw apart," will the autobahn leading directly into Frankfurt become increasingly vulnerable?

If Frankfurt is captured by the Warsaw Pact, NATO's Central Region will be effectively cut in half. Maintaining NATO solidarity after a defeat such as the loss of Frankfurt will be a major problem for the NATO leadership.

This potential border problem between the V U.S. Corps and West German III Corps is not NATO's most glaring coordination challenge. Both the U.S. V Corps and the West German III Corps are powerful organizations and should be able to handle most situations. What if a weaker organization is subjected to similar strains? Will a unit with limited combat power or a unit from a different army group entirely be able to handle the Warsaw Pact and a major boundary coordination problem? Besides the problems of cross-corps coordination, the coordination between NATO army groups is another challenge for the NATO commanders.

Initially, NATO's center sector has eight corps from five nations arrayed against the Warsaw Pact. The corps is the primary building block in the NATO defenses. Each of the five nations in the Central Region plans to fight using different warfighting doctrines. With a NATO forward defense, a breakthrough in one corps sector could lead to an unhinging of the entire front. This makes the success or failure of individual corps critically important to all corps commanders [Ref. 35: p. 37]. To provide national corps commanders with the greatest chance of success, synchronization and interoperability must take place between NATO allies and corps. If the five nations of NATO's center sector fail to communicate in areas such as synchronization of forces, unit coordination, or warfighting doctrines, Warsaw Pact success against these national corps will

be enhanced. The next chapter will examine each of these national corps and focus on their diverse warfighting doctrines.

VI. THE CORPS OF NATO'S CENTER SECTOR AND THEIR DOCTRINE

A. INTRODUCTION

NATO is a political and military coalition of democratic nations. A reality of coalition warfare is that individual national warfighting doctrines are not always compatible with the doctrine of other alliance members. National doctrines are a result of peacetime military and political compromises. The problem of integrating national and alliance doctrines is stated in a book entitled, *Conventional Deterrence*:

The central military task confronting NATO planners is formidable: to integrate the air, land, and sea forces of many countries, each with differing joint tactical doctrines and force structures. An effective alliance defense requires the acceptance of key strategic and tactical doctrine so that a cohesive and coordinated effort will result. The political reality is that these doctrines, developed and adopted in peacetime, are the results of military and political compromise and concession over many years and are difficult to amend with any speed. Any proposed changes must be examined, staffed, and approved by a complex allied bureaucracy. [Ref. 19:p. 113]

It is very difficult for any individual or group to undo years of doctrinal concessions. Additionally, "The military reality is that these doctrines reflect widely divergent force capabilities, based on different arrays of weapons and equipment." [Ref. 19:p. 113]

This chapter will present the various operational forms of defense. Following this discussion, the individual corps of NATO's center sector are examined. The emphasis is on the warfighting doctrines of the U.S., West German, British, Belgian, and Dutch Corps. After the five national doctrines are explained, the doctrines will be compared and contrasted.

This comparison is accomplished by placing each national doctrine on similar terrain and in a common scenario. Finally, comments are presented concerning the possible implications of NATO having such diverse warfighting doctrines.

B. DEFENSIVE FORMS

An army conducts one of four operational forms of defense: area, linear, mobile, and aggressive. However, most defensive plans are a combination of the four "pure" forms. A nation develops its defensive doctrine after an analysis of the missions assigned, the troops/equipment available, the enemy, the terrain, weather, logistics, and time. [Ref. 19:p. 140]

Area defense is structured to use a battlefield's "depth." The defender desires to draw the attacker into a series of defensive belts and strongpoints. The defender fights the battle from various fighting positions. Within this series of defensive positions, the attacker should suffer attrition and become increasingly disorganized. Although not desired, a penetration of the defender's forward line could be accepted. The defender's final goal is to defeat the attacker by attrition or by the execution of a decisive counterattack once the attacker becomes weakened. [Ref. 19:p. 140]

A linear defense is when the defender constructs a barrier and attempts to keep the attacker from penetrating this barrier. The defender wishes the attacker to suffer heavy losses by assaulting his fortified positions. Although the defender may create small reserves, the bulk of the defender's forces are forward along the barrier. An example of a linear defense was the French Maginot Line. [Ref. 19:p. 140]

The mobile defense is designed to stop an armor-heavy attack. The defender divides his forces and sector into three zones. The three zones are the Covering Force Area (CFA), the Main Battle Area (MBA), and the Rear Area (RA). In the CFA, cavalry-type units are deployed to gain initial contact with the attacker. The covering force units seek to channelize the attacker into preselected avenues and to identify the attacker's main effort. The covering force wants to avoid becoming decisively engaged. Additionally, the covering force warns the main battle area of the attacker's advance. The majority of the defender's combat power is deployed in the MBA. The defender defeats the attacker by using strong-points, battle positions, and local counterattacks. If the MBA is breached, reserves from the rear areas will attempt to seal the penetration. Once the attacker is stopped, the defender hopes to counterattack and either destroy the attacker or force him to withdraw. [Ref. 19:p. 140]

The aggressive defense may be best summarized in the adage that "the best defense is a good offense." The defender wants to seize the initiative early and quickly defeat the attacker [Ref. 19:p. 141]. An aggressive defense was demonstrated by the Israeli Defense Force's preemptive attack during the 1967 Arab-Israeli War.

The Western Alliance allows wide divergence in the warfighting doctrines of each of the five national corps in NATO's center sector. There is sufficient variety among these five NATO nations that adjacent corps would be executing completely different operational "forms" of defense. [Ref. 19:p. 141]

The next section describes the five national corps of NATO's center sector. Following this description, the corps are placed in a common scenario and terrain. The individual corps are then examined with the following issues receiving particular emphasis: flank coordination, potential Warsaw Pact reaction to a national doctrine, and issues such as the use of time and resources.

The terrain of NATO's center sector is varied from northern Germany to southern Germany. However, the landscape of the North German Plain is relatively "simple." The North German Plain is generally flat or gently rolling and criss-crossed by water obstacles. See Figure 9 for a map of the North German Plain. [Ref. 10:p. 288] The North German Plain will be used to provide the common terrain basis for comparing each corps. See Chapter II for a detailed description of the North German Plain.

The scenario into which each national corps will be placed is a Soviet army attacking a NATO corps. For further information concerning Soviet/Warsaw Pact doctrine, see Chapter III. A Soviet army offensive operation normally covers a frontage of 60 to 100 kilometers. A simplified diagram of a Soviet army offensive operation is seen in Figure 10 [Ref. 17:p. 4-7]. With the possible exception of the VII U.S. Corps and the II West German Corps, the remaining Central Region NATO corps each defend a frontage of less than 100 kilometers. A Soviet army usually contains three to six tank or motorized rifle divisions. [Ref. 17:pp. 4-6 to 4-7]

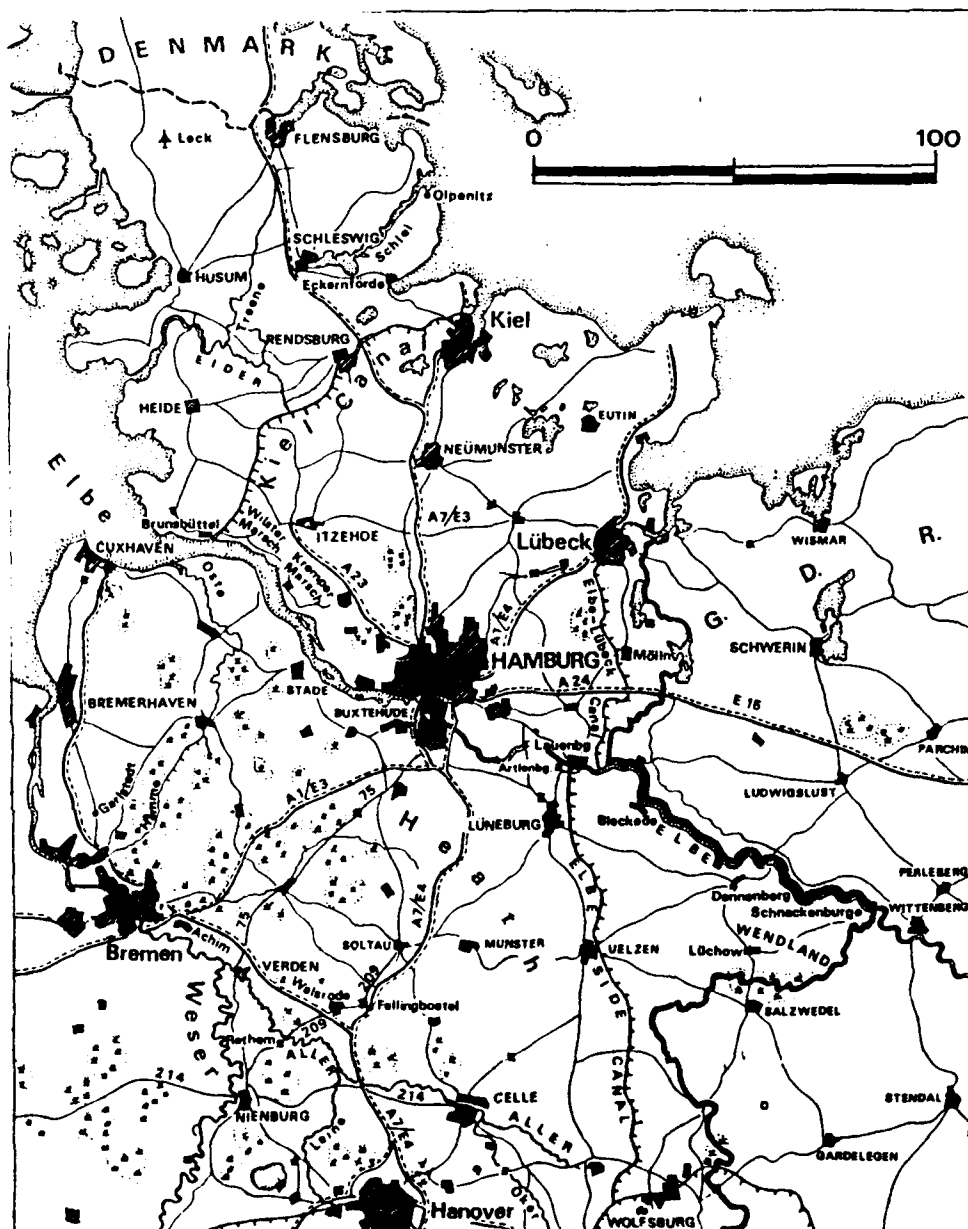


Figure 9. The North German Plain

Soviet Army Offensive Operation (Variants)

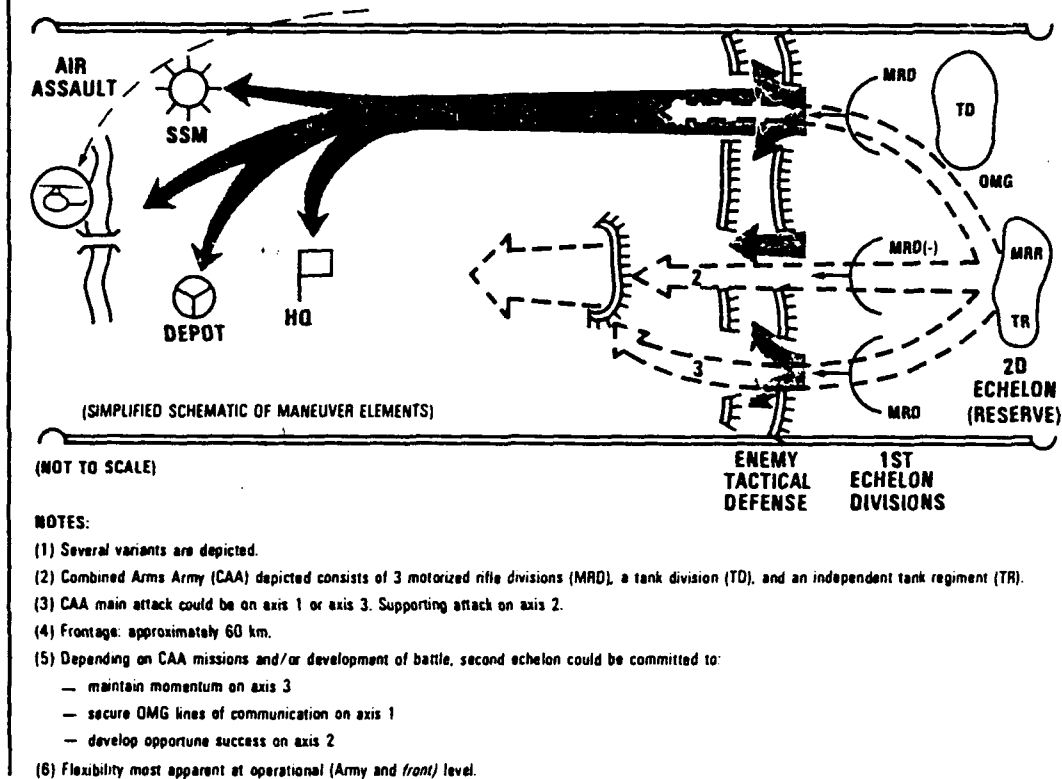


Figure 10. Soviet Army Offensive Operation

C. THE AMERICAN ARMY IN EUROPE (V AND VII U.S. CORPS)

General Rogers, a former SACEUR, stated that the U.S. Army has two major goals in Europe. The first goal of U.S. forces is to deter a Warsaw Pact attack. The second goal is to have American soldiers present to assure America's European allies that the United States remains committed to the defense of western Europe. By stationing American citizens, potentially in "harm's way," it is hoped that western Europeans will be confident of U.S. resolve. [Ref. 36:p. 307]

U.S. land forces fall into one of four categories. The first group are U.S. forces stationed in Europe. The U.S. has approximately one-third of its active army in Europe. These American forces include the U.S. V and VII Corps. The U.S. V and VII Corps are composed of two armored cavalry regiments, two armored divisions, two mechanized divisions, and one balanced brigade of two armor battalions and two mechanized infantry battalions. In addition, one mechanized brigade is stationed in NORTHAG and one infantry brigade is in West Berlin. American units in the first group have modern equipment and are maintained in a high state of preparedness. [Ref. 9:p. 32]

The second group of forces is garrisoned in the continental U.S. but has prestocked equipment in Europe. In 1990, these forces consist of one corps headquarters (III Corps), one armored cavalry regiment, two armored divisions, and three mechanized divisions. [Ref. 9:p. 32]

The third group consists of U.S.-based active divisions which may require National Guard "round out" forces. This group includes units such as the XVIII Airborne Corps and some of the U.S. Army's light infantry divisions. Units in the third category have contingency missions which might take them to Europe. [Ref. 9:pp. 32-33]

The fourth category includes National Guard and Reserve units. This group could supply NATO with up to nine divisions, 26 brigades, and large numbers of artillery, engineer, combat support, and service support units. [Ref. 9:p. 33]

The U.S. Army has developed an aggressive defense doctrine. This doctrine calls for executing simultaneous attacks into the depths of the

attacker. These deep attacks would aim for vulnerable points in the attacker's military structure. "This is not a new discovery. US, German, and Israeli campaign plans have historically made use of long-range interdiction to gain local battlefield advantages." [Ref. 21:p. 7-13]

Deep battle attacks are conducted by air and artillery assets. Conventional and unconventional forces may also interdict enemy movements. The goal of fighting the deep battle is to disrupt the enemy in his attempts to mass his forces and create opportunities for U.S. offensive strikes which would defeat the attacker in detail. [Ref. 21:p. 7-13]

Deep battle opens opportunities for decisive action by reducing the enemy's closure rate and creating periods of friendly superiority in order to gain or retain the initiative. If the enemy is prevented from reinforcing his committed forces, even temporarily, he may be defeated piecemeal. [Ref. 21:p. 7-14]

At the same time, the U.S. Army will conduct a defensive battle along the front line which is characterized by defensive positions, delaying actions, and counterattacks. Under the title of Airland Battle, this doctrine has been evolving for many years from the static defense of the 1960s to the concept of an active defense during the 1970s. Then, in the 1980s, the U.S. Army developed an aggressive defense which stresses maneuver: the Airland Battle. [Ref. 19:p. 141]

The Airland Battle plan concentrates on the operation of corps level combat units that seek to deny victory to the attackers by disrupting the synchronization of their force echelons and seizing the initiative. Its stress is on manœuvre, using air power to strike against second echelon forces, and it requires a considerable integration of force strength at the corps level in order to fight the two battles simultaneously. The aim is to disrupt the attacker's synchronization of forces and to turn the battle to the advantage of the defending forces. [Ref. 37:p. 62]

A former U.S. Army Training and Doctrine Command (TRADOC) special assistant to the commanding officer, General Donald Morelli, described Airland Battle as a soccer game as compared to a football game. "The Army," he argues, "should stop thinking of battle as a football game, in which players assume fixed positions, and start emulating soccer, in which play shifts rapidly from one part of the field to another and players decide independently what to do." [Ref. 38:p. 40]

If a U.S. corps fights a Soviet army on the North German Plain, which is where the III U.S. Corps is scheduled for deployment, the American units should follow a variation of the official U.S. Army doctrine of Airland Battle. Although Airland Battle is the current doctrine of the U.S. Army, it is not totally embraced by U.S. forces assigned to NATO. General Rogers, when he was SACEUR, publicly stated that he would not use Airland Battle in NATO. He recognized that in NATO's coalition warfare, political, economic, strategic, and social factors will also affect military operations [Ref. 19:p. 142]. However, for the purposes of this evaluation, the U.S. corps in NATO will follow Airland Battle as their NATO doctrine.

D. U.S. SCENARIO

A U.S. corps executing Airland Battle on the North German Plain will seek to gain the initiative. Initially, the Warsaw Pact will have the opportunity to select the time and location of its attack. The U.S. corps commander will fight two battles—one deep and one following the line of enemy contact. His deep battle will be fought using primarily artillery and fixed wing air assets.

The U.S. commander will attempt to deceive the enemy. Additionally, the U.S. Army's FM 100-5 states, "Offensive combat is as much a part of defensive operations as strongpoint defenses or delaying actions." [Ref. 21:p. 10-1] With this principle, the U.S. commander will attempt to contain the enemy where he must and counterattack at the decisive time and place.

The U.S. commander will seek to strike the attacking first echelon Warsaw Pact divisions in their flanks or rear and destroy them piecemeal. His deep battle will attempt to control the Warsaw Pact's commitment of his second echelon divisions. For the U.S. corps commander, Airland Battle is a risky strategy with the potential for large rewards or a defeat. For example, a strictly linear strategy is usually more predictable in its outcome—an attacker either penetrates the defenses or he does not. In contrast, a maneuver-based defense is more fluid and, consequently, the battle's outcome is harder to predict.

As part of his defensive preparations, the U.S. corps commander must decide how to employ his limited resources. In other words, artillery batteries fighting the deep battle are not directly available to support U.S. units in actual contact with the enemy. Additionally, if NATO is fighting a FOFA battle, some air assets may not be available to the U.S. corps. Also, the U.S. corps does not have the ground assets to offer a staunch defense at every point along his long front line. If the U.S. corps wants to defend everywhere on the North German Plain, the U.S. forces would have to be spread quite thin. Furthermore, this weakened front line will be even weaker if the U.S. commander wishes to maintain a large reserve.

The flanks of the U.S. corps may not be firmly set. Actions such as "deep attacks" or bold offensive maneuvers with ground units are at times executed with the risk of not maintaining perfect flank coordination or security.

The terrain of the North German Plain is able to support an aggressive form of defense. The North German Plain has limited manmade and natural obstacles (as compared to southern Germany) and allows both sides the opportunity for maneuver.

The Warsaw Pact will have difficulty in attacking the U.S. corps. The American equipment is excellent and their command and control system is generally adequate. If the U.S. corps commander is able to gain the initiative, Airland Battle may prove decisive. However, the U.S. corps is vulnerable. For example, if the Warsaw Pact is able to force a penetration and attacks the U.S. logistics system, the "bold" maneuvers of the U.S. units may stop for lack of supplies. Additionally, if the Warsaw Pact is able to attack the U.S. command and control system, the American commander may be unable to exploit potentially decisive opportunities.

U.S. Army doctrine calls for an aggressive defense. Deep attacks will be conducted by various weapons which may or may not be under the direct control of the U.S. corps commander. The American commander will seek to maintain the initiative and execute a defense based on the mobility of his units.

E. THE GERMAN ARMY (I, II, AND III WEST GERMAN CORPS)

The Federal Republic of Germany supports the largest, the most powerful, and one of the best-equipped armies in western Europe. The

active strength of its armed forces is approximately 495,000. The West German army maintains high standards of training. Additionally, the West German army is supported by an efficient reserve and conscription system. [Ref. 9:p. 43]

The ground forces of the West German army are divided into the Field Army and the Territorial Army. The Field Army contains 12 divisions, consisting of six armored, four mechanized, one mountain, and one airborne division. The Territorial Army is composed of 12 home-guard brigades, which are generally responsible for rear-area security. Furthermore, a large number of local defense units, reserves, and support units provide assistance to NATO. [Ref. 9:pp. 43-44]

The West German Army is not deployed as a single entity. West German corps are intermixed with the other national corps of the Central Region. The Field Army is divided into three corps sectors and two independent divisions. In northern Germany, the 6th Panzer Grenadier Division is under the control of Allied Forces Northern Europe (AFNORTH). The 6th Division protects Schleswig-Holstein and cooperates with the Danish Army in the defense of the Danish peninsula. Under the guidance of Allied Forces Central Europe are three West German corps and the remaining independent division. The I German Corps has one mechanized and three armored divisions. This is the most powerful German corps. The I German Corps helps NORTHAG defend the North German Plain. In CENTAG there are two German corps. The German III Corps has one mechanized division and two armored divisions. III Corps covers the northern half of the Fulda Gap. The II German Corps is in southern

Germany. II Corps consists of one armored, one mechanized, and one mountain division. II Corps has partial responsibility for defending the West German-Czechoslovakian border. [Ref. 36:pp. 234-235]

The West German army is well armed. For example, the West Germans have more than 4,250 main battle tanks [Ref. 10:p. 204]. The army's main battle tank is the Leopard II, which is similar to the U.S. M1 tank. Both the Leopard II and M1 are equal to or better than any Warsaw Pact tank. [Ref. 9:p. 43]

The Army of West Germany is impressive, but its long-term effectiveness will be hindered by a declining West German birthrate. This decline started in the 1960s and continues into the 1990s. The typical West German woman will bear an average of only 1.4 children. [Ref. 10:p. 204]

West Germany still has the largest population in European NATO, but the reserve of manpower of military age is drying up fast. In 1984 the annual requirement...was drawn without difficulty from the pool of about 310,000 young men, but by 1992 the number available will have shrunk to 160,000, which will add to the difficulty of defending the Central Front by conventional means. [Ref. 10:p. 204]

The Army of West Germany plans to conduct an armor-heavy mobile defense. When the West German commander identifies the decisive point and time, he launches a counterattack.

Defensive positions are prepared and occupied. Forward units fight to channelize the attacking formations. [Ref. 19:p.141]

The stress in the German Army is on a mobile defense. This mobile defense concept is demonstrated by the high mechanization of the German army. Since the post-World War II formation of the new West German army, their military doctrine has been modified to reflect the

strength of the army, the political reality of forward defense, and the problem of a nation lacking "depth."

The German Army today is caught in a doctrinal and strategic dilemma. Its operational model has historically been a defense in depth; the timing of decisions was critical, while space was not... Today, the German Army, as part of NATO, does not have the space to retire and subsequently stretch out an opponent's thrusts... However, the requirement to defend forward does not mean a linear defense in-place. Historically, a cordon defense is known to fail. Within the context of HDv 100/100 (A West German Army Publication, "Command and Control in Battle"), there is room to believe that the Germans are again looking toward a form of maneuver warfare that could "vet" the strength of an armored thrust from Warsaw Pact nations. The Germans would trap the leading echelons of a Warsaw Pact attack by driving flank counterattacks between the initial and follow-on echelons of the standard Warsaw Pact operation. Numerous division and corps level operations on the Eastern Front were carried out using a similar scheme. [Ref. 39, pp. 118-120]

The West German Army has received criticism for its dedication to forward defense.

The concept of forward defense has become the center of considerable controversy. It has become popular to deride it as defense that is Maginot style, passive, static, inflexible, and linear. This is of course an exaggeration...the Bundeswehr has always stressed the virtues of mobile defense...the Germans have been at variance with some of their allies whose attrition-and-fall-back-oriented defense concepts were much less flexible. [Ref. 40:p. 163]

In countering criticism against the West Germans, the key point to consider is that forward defense is not a tactical warfighting doctrine, but strategic guidance from NATO and West German political leaders. General von Sandrart, a former West German Chief of Staff, stated that forward defense is "...an operational umbrella concept of the Alliance, but not a tactical doctrine of how to fight the battle at division or brigade level." [Ref. 41:p. 19] Additionally, the German Ministry of Defense's 1983

White Paper wrote "...the principle of Forward Defense does not constitute an obstacle to the necessity of mobile defense." [Ref. 41:p. 19]

F. GERMAN SCENARIO

The German army will conduct a mobile defense. The German units should also be highly motivated because they will be defending their homeland. The strongest German corps (I Corps) defends the North German Plain. The West German I Corps consists of four divisions. These four divisions are deployed two "up" near the IGB and two "back" behind the forward divisions. [Ref. 10:p. 289]

A mobile defense has proven to be successful in other wars., but a West German mobile defense is hindered by NATO's lack of depth. To be successful, a mobile defense usually requires depth to "stretch" the attacker and present opportunities for decisive counterattacks. The North German Plain does not offer great depth and makes a mobile defense possible but more difficult.

Another potential problem for the German corps is if an adjacent corps suffers a penetration. This penetration could expose a flank of the German corps. With this exposed flank, the German commander's plans for a mobile defense may be upset when he must defend not only his frontline but also his flanks. Furthermore, if an adjacent corps is conducting an area defense, this may force the German commander to modify his plans by requiring him to anchor his flanks with the area defenses of a neighboring corps.

If a German corps fights on the North German Plain, it should be successful in the early stages of the war. The Soviets fought against a

mobile defense in World War II. The Red Army suffered heavy losses but eventually won by weight of numbers. Also, one key difference between World War II and a future World War III is the potential battlefield. The North German Plain is not the steppes of the Soviet Union. The North German Plain's lack of depth may lead to a different outcome than the German Army's World War II mobile defense fought in the vastness of the Soviet Union. For example, in a future war in northern Germany, the initial echelons of the Soviet army could wear down the German units. The German units will be conducting a defense forward near the IGB and they do not have a great deal of "depth" in which to maneuver. Soviet doctrine stresses an attack in echelons. Follow-on Warsaw Pact echelons could seek opportunities for penetration against the now-weakened German corps. One of these echelons could exploit an identified weakness (such as a NATO corps boundary), force a breakthrough, and drive across the North German Plain.

The West German army plans to conduct a mobile defense of its homeland. This defense will start as close as possible to the border with the Warsaw Pact. The goal of the West German army is to occupy defensive positions and channelize the attacker's formations. The West Germans will wait for the decisive moment and launch counterattacks to repel the invader.

G. GENERAL COMMENTS ON THE GERMAN AND AMERICAN CORPS IN CENTAG

CENTAG's terrain does favor the defense. Also, the U.S. and West German corps are strong and well equipped. However, there are qualifi-

cations to the defensive strength of CENTAG. First, the U.S. and German units are spread thinly. The four corps of CENTAG must cover a front of approximately 590 kilometers. This distance is compared to the almost 210 kilometers allotted to NORTHAG's four corps. Furthermore, the CENTAG commander must watch for a Warsaw Pact flanking maneuver through "neutral" Austria. This Pact flanking option adds another 170 kilometers to CENTAG's front line. [Ref. 10: p. 302]

West Germany's narrow waist is a second major problem for the defenders of the Central Region. This narrow waist is near the border between NORTHAG and CENTAG. A Warsaw Pact assault at this slender area would put the Warsaw Pact in the suburbs of Frankfurt after advancing only 110 kilometers. Also, a Warsaw Pact move of 200 kilometers would place Warsaw Pact tanks in the West German capital of Bonn. Additionally, the "bulge" in the southwest corner of East Germany allows the Warsaw Pact to use interior lines. For example, NATO commanders must decide if the Soviet Eighth Guards Army would focus its main effort directly west toward the Rhine or south into Bavaria.

H. THE BRITISH ARMY OF THE RHINE (I BRITISH CORPS)

The British Army of the Rhine (BAOR) consists of four armored divisions and one artillery division [Ref. 36:p. 34]. In times of emergency, five infantry brigades are scheduled for early deployment from England. About 159,000 British soldiers are stationed in West Germany [Ref. 9:pp. 40-41]. The BAOR defends a front of 60 kilometers.

The I British Corps is undergoing a slow but steady modernization program. The new Challenger tank, an improved infantry-fighting vehicle,

and other items are entering the inventory [Ref. 9:pp. 40-41]. The equipment of the I British Corps is good but complex. For example, there are

...over 40 different types of vehicles, 5 radar systems, over half a dozen major command and control nets, 11 types of artillery pieces of different sizes, 10 rocket systems, 6 types of aircraft, and over 20 small arms, mortars, and mine types. [Ref. 36:p. 35]

The British forces are highly trained and professional. Britain is the only major European power which supports an all-volunteer military. [Ref. 9:pp. 40-41]

How will the I British Corps hold up against a Warsaw Pact assault? Based upon the demonstrated quality of the British infantry during the Falklands and the high respect in which other NATO allies hold the British, in all probability, the British small units will perform rather well. [Ref. 36:p. 35]

The British warfighting doctrine is a modified area defense. This doctrine states that:

Strong forward defensive positions will be backed up by smaller scattered multiple antitank fighting positions of about squad or platoon size. The antiarmor elements will allow enemy armor to pass and then engage them from the flanks and rear. At a decisive moment, a counterattack will repel the enemy from the British sector. [Ref. 41:p. 18]

I. BRITISH SCENARIO

The I British Corps will fight using a modified area defense. This operational form of defense may become vulnerable on the North German Plain. For example, the Soviets have an advantage in numbers of artillery pieces and an edge in the quantity of armored vehicles. Using these two advantages, the Soviets will attempt to isolate British strongpoints and

force a breakthrough. In an area defense, a penetration along one Soviet avenue of advance could lead to the bypassing of some of the defender's fighting positions. Garrisons of these isolated strongpoints, which are left in the rear of an advancing enemy, could suffer from demoralization. However, the proven strength of the British small unit leadership could mitigate this demoralization and make most of the small British antitank positions effective against Warsaw Pact units.

Flank coordination with adjacent national corps might be a problem in the British area defense. One example could be if the I British Corps is conducting a successful area defense but an adjacent corps suffers a penetration and begins to withdraw. The once-successful British area defense may now become exposed and vulnerable. NATO follows a doctrine which is generally a linear forward defense. This may require each corps to withdraw "in line" with its neighboring corps to maintain the integrity of the overall NATO defensive situation.

The Warsaw Pact will attack an area defense using its advantages in artillery and armored vehicles combined with other military assets. For example, the Soviets may "fix" certain British strongpoints by the use of persistent chemical agents. Massed artillery and armor from the first echelon divisions could then force a penetration. Follow-on divisions from the second echelon could exploit the breakthrough. The I British Corps does have an effective armor counterattack force, but if this force suffers attrition early in the war, the British defenses will be degraded. Soviet air assets could play a role in isolating these British counterattack forces. The I British Corps on the North German Plain should be able to conduct

a strong defense and inflict heavy losses on the attacking force. If the British units suffer attrition and are not reinforced, however, their area defense may eventually dissolve.

The I British Corps will follow a modified area defense. The defense of the British sector will be structured in depth, starting at the IGB. Strong forward positions are backed by squad or platoon antitank fighting positions. The British may allow enemy armor to pass their positions and engage them from the rear and flanks. If the proper opportunity presents itself, the British will execute a counterattack.

J. THE BELGIAN ARMY (I BELGIAN CORPS)

Belgium has a population of approximately ten million people and an active military of 93,000. Belgium maintains two divisions of armor and mechanized infantry, plus assorted light infantry battalions. These units are assigned to the I Belgian Corps. The Belgian Corps is responsible for a 40 kilometer sector which corresponds with the Harz mountains [Ref. 10:p. 300].

A large portion of the Belgian forces dedicated to NORTHAG are not garrisoned in West Germany. "The fundamental problem is that the Belgians are not available in sufficient force to withstand a surprise attack." [Ref. 10:p. 300] For example, of the I Belgian Corps' two divisions, only the 16th is present in West Germany in strength. Additionally, the peacetime barracks of the 16th Division are widely scattered on both sides of the Rhine and are located a great distance from its forward battle positions. Also, the headquarters of the other Belgian division, the 1st, is located inside of Belgium. The location of the I Belgian Corps

peacetime garrisons require the early warning and deployment of Belgian forces to their forward positions. If Belgian units are not alerted and moved in time, there could be a large gap in NORTHAG's forward defenses. On average, I Belgian Corps units, with peacetime garrisons in Belgium, will have to move over 200 kilometers to reach their assigned positions.

Belgian forces have suffered from funding restrictions. This economic austerity has resulted in equipment obsolescence. For example, the main battle tank of the Belgian army is the aging Leopard 1. The Leopard 1 is not an able opponent for the T-80 tanks of the Soviet Third Shock Army or Eighth Guards Army. These two Soviet armies have the potential to attack into the Belgian sector. Furthermore, there are no plans to procure new tanks. The Belgian artillery is also suffering from funding shortfalls. In the I Belgian Corps, there are only two active self-propelled 155 mm battalions and one 203 mm battalion. There is only one reserve 203 mm battalion to support this small active artillery force. [Ref. 9:pp. 44-45]

When reinforced from its homeland, the I Belgian Corps will attempt to establish an area defense. "The Belgian army plans to conduct a somewhat fluid variation of the classical area defense in depth." [Ref. 19:p. 142] This area defense in depth calls for overlapping platoon and company fighting positions. These positions will be established in depth throughout the sector.

No large reserve is deployed in Germany. The corps will depend on the arrival of mobilized reserves from Belgium to perform the

essential reserve missions of counterattack and reinforcement. [Ref. 19:p. 142]

K. BELGIAN SCENARIO

If the I Belgian Corps is able to establish itself in position, it will develop an area defense. However, the I Belgian Corps has the oldest and least-effective equipment of all NATO units in the Central Region.

The Warsaw Pact's offensive tactics are well suited for attacking an area defense. In particular, the Warsaw Pact will have an easier problem here because the Belgian defense is backed by aging equipment. Also, the Warsaw Pact will be able to use advantages such as selecting the most vulnerable point in the Belgian defenses and the use of their superior equipment. The Warsaw Pact will attack by fixing the I Belgian Corps in position, mass at the selected breakthrough point, and force a penetration. The first echelon divisions would break the Belgian defenses and the second echelon divisions would drive into the depths of the Belgian corps. The I Belgian Corps will inflict losses on the attacker, but their area defense will be vulnerable to attrition. With the attrition of the defender, if the war does not end quickly, the Belgian's area defense will eventually fail. This failure may be expedited if the Warsaw Pact selects the I Belgian Corps as the location of one of its main efforts.

The boundary coordination issues for the I Belgian Corps will be difficult if adjacent corps are using divergent warfighting doctrines. The I Belgian Corps is not the strongest NATO corps, and this fact alone will make it vulnerable for selection as a Warsaw Pact breakthrough point. If the I Belgian Corps is unable to maintain a forward line and is forced to

withdraw, the flanks of adjacent corps may become vulnerable for Warsaw Pact exploitation.

The I Belgian Corps plans to establish platoon and company fighting positions, in depth, with overlapping fields of fire. The I Belgian Corps will require reinforcements from its homeland before it is prepared to conduct an area defense in depth.

L. THE NETHERLANDS ARMY (I NETHERLANDS CORPS)

The Netherlands has a population of 14 million people and supports an armed forces of 103,000. [Ref. 36:p. 269] The I Netherlands Corps is the northernmost corps in NATO's center sector. Confronting the Dutch corps are forces from the Soviet Second Guards Tank Army. In West Germany, the I Netherlands Corps maintains only one armored brigade. The Dutch active army consists of six brigades. Of these six brigades, two are armored and four are mechanized infantry. The Netherlands reserves consist of four brigades. These four brigades are composed of one armored brigade, two mechanized infantry brigades, and one infantry brigade. [Ref. 9:p. 46]

The maldeployment of the I Netherlands Corps has similar deployment problems as I Belgian Corps. If both corps are to have a chance of reaching their positions along NATO's forward defenses, the Dutch and Belgian corps will require early warning of a Warsaw Pact invasion. This is based on the assumption that the longer the distance a military unit must travel, by roadmarch, the longer it will take to arrive at its destination. Units of the I Netherlands Corps stationed in their homeland will have to travel close to 175 kilometers to reach their initial positions.

Dutch equipment is generally modern. The Dutch main battle tanks are being upgraded to the Leopard II. Older armored vehicles are being replaced and money for training is at acceptable levels. [Ref. 9:p. 46]

The I Netherlands Corps plans to fight an area defense based on strongpoints supported by heavy concentrations of artillery fire. A former Dutch Chief of Staff described his nation's doctrine as a "...mobile, offensive-minded form of defense." [Ref. 41: p. 18] An armor-heavy counterattack force is planned to be composed of follow-on units deploying from the Netherlands. [Ref. 19:p. 142]

M. DUTCH SCENARIO

The I Netherlands Corps will establish an area defense with generally modern equipment. If time permits, the Dutch will prepare their defenses in-depth. Like the other NATO corps, Dutch boundary units must coordinate with adjacent corps to avoid the problem of one national corps withdrawing too early or too late and consequently exposing the flank of a neighboring corps.

The Soviet doctrine is best suited to attack an area form of defense. The Warsaw Pact in attacking the I Netherlands Corps will follow tactics which are similar to the doctrine previously described for use against the British and Belgian corps.

The I Netherlands Corps plans to conduct an area defense in depth. The I Netherlands Corps will require reinforcement from their homeland before they are prepared to defend their sector. The bulk of Dutch forces are held in unmobilized reserve units.

N. GENERAL COMMENTS ON THE CORPS OF THE LOW COUNTRIES

The NATO commanders of the Dutch and Belgian Corps must face two major questions:

1. How long will it take to move these two corps into their assigned sectors?
2. How long will NATO actually have before the Warsaw Pact crosses the West German border? [Ref. 36:p. 266]

Of the Dutch and Belgian Corps, the maldeployment of the I Netherlands Corps is the most worrisome for NATO [Ref. 36:p. 268]. In the I Belgian Corps, at least half of its units are "in place" in West Germany. In contrast, the single forward brigade of the I Netherlands Corps is the only unit "in place" in West Germany. Almost totally alone, this one Dutch brigade must cover the entire corps sector until Dutch units arrive from their homeland. The average distance a Dutch unit must travel to reach its forward position is nearly 175 kilometers.

The Dutch and Belgian governments' directive to mobilize and deploy units to West Germany will be a difficult political decision. Even assuming an early political decision to mobilize, the time required to prepare the I Netherlands and I Belgian Corps will be long. There are many time-consuming military tasks which must be performed before these corps arrive as fully operational units for use by the NORTHAG commander. For example, executing the Belgian and Dutch movement to their corps sectors will be a major pacing factor in NATO's development of its forward defenses [Ref. 36:pp. 267-268]. Furthermore, pushing the Dutch and Belgian units against the possible tide of civilian traffic and across

the paths of NATO's lines of communications has the potential to be chaotic. Finally, there is concern among NATO leaders that the Warsaw Pact might reach the Dutch and Belgian battle positions before the assigned Dutch and Belgian units. NATO commanders must confront these facts when they weigh the operational roles that the Belgian or Dutch Corps may or may not perform. [Ref. 36: pp. 283-284].

A superior enemy usually attacks weakest points, while containing and then outflanking strong points along a front. This lack of strength and capability on the ground early enough is an undeniable problem for NATO in the Belgians Corps' area: it is even more of a problem in the Dutch Corps' area.... [Ref. 33:p. 268]

O. COMMENTS ON THE DIVERSITY OF NATIONAL DOCTRINES

The national warfighting doctrines in NATO's center sector vary in form. These national doctrines stress different principles at the expense of others. Among the five nations examined are three different "forms" of defense. Figure 11 represents the different forms of doctrine [Ref. 19:p. 144]. In NORTHAG, the British, Dutch, and Belgian Corps plan to use an area-type defense. The three German Corps, which are intermixed in NORTHAG and CENTAG, plan to execute a mobile-type defense. Finally, the two U.S. Corps are moving towards an aggressive defense doctrine. The contribution of the three "forms" of defensive operations to the overall impression of Warsaw Pact deterrence is open to debate. [Ref. 19:p. 143]

An argument could be made that the two US corps in pursuing their own doctrine, independent of other adjacent corps, would present the Soviets with a unique opportunity to achieve their desired breakthrough. An enemy attack at the corps boundary between two corps conducting totally different types of defensive operations could afford them the best opportunity of effecting a penetration. [Ref. 42:p. 13]

combination of tangible "forces," the "will" to use these forces, and the "perception" of these forces by an opponent. NATO does not possess a common operational doctrine. In particular, it has nothing to compare with the extensively researched body of knowledge that is called the "Soviet Military Art." In place of the Warsaw Pact's common doctrine, NATO has a handful of simple guiding principles and the divergent national warfighting doctrines. The inability of NATO to form one common doctrine does not support the overall impression of deterrence. In particular, divergent warfighting doctrines present the perception of disharmony among a coalition. [Ref. 19:p. 143]

The second major implication of diversity in operational doctrine is that it will allow opportunities for Warsaw Pact exploitation. The Warsaw Pact could examine NATO's doctrinal mismatches and attack the weakest links. [Ref. 19:p. 145]

There are some serious mismatches, particularly with the U.S., Belgian, and Dutch forces. The force-strategy disjuncture is a problem that has been with NATO since the Lisbon Conference. But if the alliance is to rely on conventional deterrence, then a similar mismatch at the operational level becomes just as important. [Ref. 19:p. 145]

One example of this possible mismatch between doctrine and force structure is the U.S. Army. The U.S. V and VII Corps will conduct a version of Airland Battle. U.S. forces are mobile and are equipped with the necessary command and control systems to execute an aggressive defense. However, the U.S. forces in West Germany must defend close to 250 kilometers of the IGB. U.S. forces are currently stretched to defend this extended sector. Furthermore, the U.S. NATO forces do not have

large reserves or a fully developed logistical infrastructure to support a "doctrinally correct" Airland Battle. For example, Airland Battle stresses wide-ranging and continuous maneuver. A maneuver-based strategy will require an equally mobile supply system which is able to move gigantic quantities of fuel and resources to the "fast"-moving combat units. There is some question whether the U.S. logistical system of 1990 is able to support this fast pace of operations [Ref. 19:p. 145]. Additionally, units in the V and VII U.S. Corps suffer from maldeployment. An example is the U.S. 8th Mechanized Division, which must cross the Rhine River and march over 150 kilometers to reach its forward positions.

A second example of a potential mismatch between stated doctrine and force structure is the I Belgian Corps and the I Netherlands Corps. Neither the Belgian nor the Dutch Corps is at full strength in either manpower or equipment. The Dutch and Belgian corps are each planning to conduct an area defense based on a series of fighting positions. An area/positional type defense takes the longest time to properly prepare. The major reason for this time factor is that the defended terrain must be prepared by time-consuming actions such as digging bunkers, laying minefields, and constructing obstacles. Compounding the challenges for the I Belgian Corps and the I Netherlands Corps is the additional time-sensitive issue of maldeployment. Because of political factors, battle positions can not be built in peacetime; given the possibly long deployment time from their respective countries, the I Belgian Corps and I Netherlands Corps may not have sufficient time to develop an area/positional defense before the arrival of the Warsaw Pact. [Ref. 19:pp. 145-146]

A third implication of doctrinal diversity is the selection of the "best" way to defend against a Soviet-style attack.

All other things being equal, the northern corps sectors that rely on area-type defenses are more susceptible to penetration by a Soviet-style multiple echelon offensive. In the Northern Army Group (NORTHAG) area, the Warsaw Pact face three corps sectors known to be organized into area-type defenses: British, Belgian, and Dutch corps. Because it is easier to identify gaps and to break through a relatively static positional defense, Warsaw Pact forces may concentrate their efforts against these sectors. The combination of open terrain and positional defense force deployments makes the NORTHAG front particularly vulnerable.... [Ref. 19:p. 146]

A fourth implication of doctrinal diversity is the role of reserves and units from different nations reinforcing a threatened sector. Ground forces from adjacent corps must be prepared to move into their neighboring corps sectors if a threat develops to the integrity of NATO defenses. One example is the use of counterattacks. Each NATO nation plans to use some form of counterattack as part of its warfighting doctrine. However, the Dutch concept of counterattacks in an area defense is different than the U.S. Airland Battle concept of counterattacks, which may call for driving "deep" into the depths of the enemy. In contrast, the Dutch concept of a counterattack is more narrow and seeks primarily a local, tactical-level advantage. For this reason, the coordination of issues such as counterattacks must take place between NATO allies. Additionally, each national doctrine may specify a different "pace" of withdrawal. A corps fighting an area defense in depth, from strongpoints, may withdraw at a different rate than a corps conducting a mobile defense. Avoiding the possibility of exposing the flanks of a friendly unit that an uneven withdrawal may create in NATO's forward defenses will be difficult under

Warsaw Pact pressure [Ref. 19:p. 146]. Overall, the mixing of various units, from diverse corps, who fight in different ways, will be a command and control challenge for the NATO commanders.

Doctrinal differences exist among NATO allies, and these differences will persist. One of the paramount tasks of the SACEUR is to work to harmonize alliance capabilities: doctrine, force structure, planning, logistics, and so forth. Although significant progress has been achieved in the post-Vietnam period, these efforts will continue to be frustrated by limitations inherent in the diversities of coalition warfare. [Ref. 19:p. 147]

NATO's two functions are to deter an invasion and to fight the Warsaw Pact if deterrence fails. If the Warsaw Pact does invade western Europe, it will be critical for NATO to develop the "rules" of its defense before the arrival of Soviet tanks. When the chaos of war sets in, it will be virtually impossible to quickly develop a consensus of NATO-level operational procedures in time to stop the attacker's momentum. A coalition which desires to create the impression of deterrence must face the reality of doctrinal diversity and seek answers to the issues raised by this diversity.

VII. CONCLUSIONS

This thesis has examined the warfighting doctrines of NATO's five national armies which are deployed in central Europe against the Warsaw Pact. The approach for this chapter is to summarize key tenets from the first six chapters. Finally, comments are presented concerning possible solutions regarding the implications for NATO of each member's military fighting with diverse warfighting doctrines.

NATO is a political and military organization and it was not formed to fight a future European war. Instead, NATO's primary goal is to deter aggression. Deterrence is a political objective. NATO is a political organization first and a warfighting organization second. In some situations, NATO's solution to a peacetime political issue initiates or compounds a wartime problem. One example is NATO's "layer cake" corps defense. The layer-cake defense demonstrates political solidarity but it simultaneously increases interoperability friction between NATO military units and command structures.

The Western Alliance is fundamentally defensive and it is a coalition in which one superpower does not dictate policy to the other members. A result of this democratic structure is that extensive consultation occurs between NATO members. NATO decision making is completed only after all 16 NATO members agree on what should be the collective decision. For example, before a common coalition warfighting doctrine is adopted by NATO, all individual members must accept this common doctrine.

Each NATO member has its own unique military organization, history, and idea on how best to fight an enemy. Additionally, a coalition's doctrine has the political objective of avoiding disunity and controversy. Alliance leaders are faced with the dilemma of selecting a common warfighting doctrine which would be cohesive for the coalition and acceptable to all 16 NATO members.

In contrast to the NATO decision-making process, the Warsaw Pact, under the domination of the Soviet Union, controls most of the military planning for its Warsaw Pact allies. One result of the Soviet Union's leadership is that the Warsaw Pact has adopted Soviet military doctrine and organization. If the Warsaw Pact attacks NATO, the Warsaw Pact will have an advantage because each of its members uses a similar warfighting doctrine. Additionally, Soviet military thinking is primarily offensive in nature. Soviet doctrine calls for massing superior forces at the designated breakthrough point(s). Furthermore, Soviet doctrine seeks to attack an opposition's vulnerabilities. Soviet doctrine exploits these vulnerabilities through the use of surprise, combined-arms offensive action, and momentum.

The defense of western Europe is a joint operation. NATO must approach this joint operation from two levels. The first level is a national perspective. The Western Alliance must insure that each NATO member integrates its air, land, and naval assets into one coherent national force. The second level is a coalition perspective. NATO must attempt to integrate each member's armed forces into one effective coalition military force. The task confronting NATO is formidable. The Western Alliance

must effectively integrate the air, land, and naval forces from 16 nations, each with a different warfighting doctrine, into one unified structure.

The Western Alliance's lack of one unifying coalition warfighting doctrine hinders the integration of the armed forces of member nations into one NATO structure. NATO's warfighting doctrine has evolved over 40 years into a concept which is vague. This ambiguity is only compounded by the diversity in national warfighting doctrines. However, NATO attempts to create a unified framework. NATO doctrine, as seen in sources such as MC 14/3 and ATP 35 A, does specify broad principles such as forward defense, the definition of common terms, and sections of the battlefield. Unfortunately, these documents do not clearly state a specific warfighting doctrine. One example of the vague NATO doctrine is shown in ATP 35 A. This publication develops points such as dividing the battlefield into sectors, but within these sectors allows each ally the ability to establish its own concept of how to defend that sector.

When NATO allows its national corps such a wide latitude in how they fight, a great responsibility is placed on these national corps. NATO's "hands off" approach to controlling its corps implies that success for the Western Alliance means that all eight national corps must individually defeat their Warsaw Pact attacks. However, a penetration in one national corps sector has the potential to unhinge the entire NATO forward defense.

The boundaries between all military units are vulnerable to exploitation. Additionally, the Warsaw Pact, as the offensive force, has the ability to select the time and location of its assault. The Warsaw Pact will take

advantage of this opportunity. If the Western Alliance is to have a greater chance of absorbing the initial Warsaw Pact assault, NATO's national corps must conduct boundary coordination as they recoil from an attack. If proper boundary coordination is not achieved, the chance for penetration of NATO's forward defenses by the Warsaw Pact will be quite large.

For the greatest probability of success, NATO's corps commanders must coordinate and synchronize their actions across shared boundaries. Synchronization is the commanders' most important task. When the commander is not physically present to influence his subordinates, he must use an indirect means such as a common doctrine or procedure to help achieve synchronization. Additionally, if a military operation is properly synchronized, the potential power of single units is increased beyond their individual effects. However, synchronization in NATO is complicated when adjacent units may speak a different language, have varying organizational structures, or have an entirely different concept of how to fight. In this thesis, the importance of coordination and synchronization has been demonstrated by two examples. One example was the success of General George Patton's Third Army during the Battle of the Bulge. The second example was the development of boundary coordination issues in the Fulda Gap between the U.S. V Corps and the West German II Corps.

NATO's eight national corps maintain a forward defense against the Warsaw Pact. The Warsaw Pact has one unifying doctrine and the ability to select the time and location of its attack. NATO does not have a common warfighting doctrine. This lack of a coalition doctrine makes NATO

corps boundaries increasingly vulnerable, does not reinforce the perception of deterrence, and allows opportunities for exploitation by the Warsaw Pact.

The warfighting doctrines of the U.S., West German, Belgian, British, and Dutch corps are not fully compatible. Each national corps employs a doctrine which is based on a variant of one of four operational forms of defense. These four operational forms are area defense, linear defense, mobile defense, and aggressive defense. An area defense is structured to use a battlefield's depth. The defender's objective is to draw the attacker into a series of defensive belts and defeat him through attrition or counterattacks. A linear defense is when the defender constructs a strong barrier and attempts to keep the attacker from penetrating this barrier. The defender wants the attacker to suffer heavy losses by assaulting his fortified position(s). The mobile defense is designed to stop an armor-heavy attack. A mobile defense divides the battlefield into three zones, each with a specific purpose. The attacker advances into the mobile defense structure and becomes increasingly weakened and vulnerable to counterattacks. The military which employs an aggressive defense desires to seize the initiative early and believes that the best defense is a potent offense.

The United States adheres to a doctrine based on an aggressive defense, the West Germans a mobile defense, and the Dutch, British, and Belgian corps follow a modification to an area defense doctrine. The national warfighting doctrines of these five nations vary in form. When these five armies selected the warfighting doctrine to protect their

assigned sectors, each nation was constrained by factors such as the equipment available, political restrictions, social issues, current military organization, history, military traditions, economic factors, location of the nation, geography of its assigned defensive zone, and many other factors.

One result of each NATO member basing its doctrine on such a series of internal and external factors is that the nation is not entirely free to select the best military solution. Instead, these factors might force a nation to choose a warfighting doctrine which might not be similar to other NATO members.

The internal and external factors which affect a warfighting doctrine are difficult to change. NATO desires to have each member equipped with the most modern weapons available. However, the nations of the Western Alliance cannot afford the gigantic price of supplying all its units with the most modern equipment. For example, the I Belgian Corps would like to purchase new armored vehicles to replace its aging Leopard Is, but it does not have the funds to procure the latest and most effective tanks. The Belgian government must accept the fact that it does not have the financial resources or the public support to construct the most modern military possible. This low level of funding directly affects the warfighting doctrine which is used by the I Belgian Corps. In other words, if the I Belgian Corps does not have expensive, highly mobile weapons, it cannot employ a defensive doctrine such as an aggressive defense, which is based on highly mobile weapons.

The impact of history is another example of how external and internal factors influence the selection of a national warfighting doctrine. The

modern German army looks to its past for guidance on how to defend the Central Region against the Warsaw Pact. During World War II, the German army employed the highly successful mobile defense. The German army of today draws from these World War II lessons in its development of a warfighting doctrine. The current German mobile defense warfighting doctrine was shaped by events which took place in German history.

The differences between the warfighting doctrines of the national corps in NATO's Central Region are striking. These differences are a result of unique internal and external factors which affect how a nation selects its warfighting doctrine.

NATO's use of diverse national warfighting doctrines has four implications:

1. Doctrinal diversity creates the impression of coalition disharmony and, consequently, does not contribute to the concept of deterrence as viewed from the perspective of the Warsaw Pact.
2. NATO's divergence in warfighting doctrines might present opportunities for exploitation by the Warsaw Pact. The Warsaw Pact's warfighting doctrine seeks to attack enemy weaknesses, such as boundaries between NATO's national units.
3. An area form of defense is used by three of the five national corps. However, an area form of defense might not be the best way to defend against a Soviet-style assault. For example, a military unit which executes a positional/area defense might become more easily fixed in place and either isolated or destroyed.
4. Diverse warfighting doctrines must be coordinated between national corps. This doctrinal diversity creates a larger coordination problem for a coalition's command and control structure, as compared to a coalition with a common doctrine. The Western Alliance's efforts to achieve harmony among its members, who possess entirely different concepts on how to fight, is a major coordination challenge for NATO.

How can effective coordination be achieved by the members of NATO? Possible solutions may be reached by refocusing on the concept that doctrinal diversity between national corps is a coordination problem. A coordination problem may be solved by using means such as improving an organization's coordination mechanisms.

NATO's goals are to create the impression of deterrence and, if this fails, fight the Warsaw Pact. NATO's preparations for obtaining these two goals would be enhanced if the national corps, which are major components of deterrence and warfighting, learn to more effectively train and, consequently, fight together. NATO's ability to have its corps train together will be improved if its multi-national units are properly coordinated.

Six coordination mechanisms have been described in Chapter V: direct supervision, mutual adjustment, and the standardization of skills, processes, outputs, and norms. These six coordination mechanisms are used as a framework for suggestions on how to more effectively coordinate NATO's national corps. The ultimate goal of these suggestions is to reduce the interoperability friction between NATO's corps.

Direct supervision is the first mechanism for coordination. Direct supervision is when coordination is accomplished through personal intervention by a supervisor or leader. Direct supervision will be enhanced after two points have been understood by the NATO alliance:

1. Alliance members must realize that the NATO corps defense should be viewed as a whole instead of eight separate corps battles by five individual nations.

2. The current NATO army group commander and his staff do not have the resources to fully influence the battle in the army groups sector.

When NATO selected the "type" of headquarters to place between the national corps and AFCENT, it picked the smaller army group instead of the field army headquarters. NATO's current army group is not a powerful headquarters. The army group is normally an organization without organic combat support units or sizeable reserves. The army group was selected partially based on the limited authority that the members of NATO wanted to give this NATO-controlled level of command. A second reason for the selection of the army group was limited resources. Without a reorganization at the national corps level, NATO does not have "extra" military units available to form a large army group reserve. NATO's limited resources are generally placed forward in the national corps and not held by the army group.

The ability of the army group to assist its separate corps must be strengthened. A NATO army group commander and his headquarters should be given increased power to control the multi-corps sector. Increased power, for this level of command, is coupled with an improvement in the commander's C³ structure, which includes improved communication facilities. Additionally, more thought should be given to improving the operational doctrine and procedures which support the army group as it assumes an increased role as a link between the strategic and tactical levels of war. Also, the increased influence of the army group includes the ability to allocate resources and military units across national corps boundaries. By allowing the army group commander greater control over his subordinate corps, the army group commander

could more quickly effect his multi-corps battle and utilize his limited resources.

The army group commander's increased influence allows him to react more effectively to the dynamic battlefield. For example, if the Warsaw Pact attacks a corps boundary, the army group commander with increased resources and control would be better able to react to this time-sensitive threat. The strengthened army group commander could coordinate the boundary between his two threatened corps, each with a possibly diverse doctrine, and more efficiently close the penetration.

Mutual adjustment is the second coordination mechanism. Mutual adjustment is where two or more units confer to reach a shared solution. Mutual adjustment is not usually the fastest form of coordination. Additionally, in using mutual adjustment, one member tries not to dominate the other party.

Mutual adjustment can be used to strengthen coordination between corps using diverse warfighting doctrines. For example, mutual adjustment might be improved by developing a NATO officer corps with a greater "alliance perspective." In other words, the Western Alliance should attempt to educate its officers and civilian leaders to appreciate the coalition aspect of a problem as well as their own national perspectives. This goal may be reached by increased education in NATO schools and multi-national training. Additionally, mutual adjustment may be realized if national units actually cross national boundaries and practice in peacetime what might have to take place in wartime.

Standardization of skills is the third mechanism for coordination. The goal of standardization of skills is to make individuals and units as interchangeable as possible. This might be accomplished by having these individuals or units train to one common standard or in a similar training environment. A training program which stresses concepts such as crossing national corps boundaries would assist in making units more interchangeable. Additionally, the standardization of skills would be improved by sending officers and civilian leaders to common NATO schools or by increasing partnership/exchange arrangements between multi-national units.

The standardization of processes and outputs is the next means of coordination. These two coordination procedures are accomplished by means such as standard operating procedures. The standardization of processes and outputs allows military operations to take place with a reduced planning and direct supervision. For example, standard operating procedures are developed which instruct a unit in how to act in specific situations. The standardization of process and outputs allows coordination to take place between national units based on shared expectations.

The coordination problems caused by diverse national warfighting doctrines would be reduced by having one coalition warfighting doctrine. A common NATO doctrine would state how each national corps would fight in coordination with the other members of NATO. A common coalition warfighting doctrine or the increased use of NATO standards and procedures could assist in the standardization of processes and outputs.

Unfortunately, the solution of a common warfighting doctrine, which appears obvious, would encounter many problems. NATO is a democratic coalition and unity is important to such an organization. Sixteen democratic nations can not be coerced to accept a common doctrine. Additionally, each member has an unique military system with varying force structures and equipment. The cost of changing each member's armed forces to effectively use a common coalition warfighting doctrine would be prohibitive. Additionally, what common doctrine should be selected by NATO? For example, a resource-poor Belgian corps, with aging equipment, is not as able to execute deep counterattacks into the enemy's rear areas as a country with more mobile equipment. However, deep counterattacks by Belgian units might be called for if it follows an aggressive defense doctrine. On the other hand, the advantages gained by the highly mobile and modern equipment of the U.S. and West German corps would be wasted if these weapons systems were immobilized in a positional/area defense.

In light of these difficulties in achieving a common coalition warfighting doctrine, another approach might be used. NATO's leadership could stress to its members the advantages of a "common" approach and develop appropriate procedures to account for doctrinal diversity. The increased use of standard coalition procedures, combined with realistic training, would assist in coalition coordination. For example, Belgian or Dutch units might be reinforced by U.S. armored counterattack forces. Standard procedures could be developed in peacetime for the utilization of these U.S. forces by the Belgian or Dutch commander. These proce-

dures could be developed to account for the coordination problems resulting from doctrinal diversity.

The standardization of process and outputs might also extend to the coordination of logistical resources. NATO might modify its logistical structure to allow multi-national units to be more interchangeable. This modification might be difficult if it encounters resistance from sources such as national defense contractors. However, it is possible to redesign the logistical infrastructure to more effectively support the cross-attachment of multi-national units. For example, an increased emphasis on common parts, logistical procedures, supply lines and military supplies would assist in the standardization of processes and outputs. A common NATO logistical structure would more easily allow the shifting of units across corps boundaries and, consequently, contribute to making these units more interchangeable.

The sixth mechanism for coordination is achieved by the standardization of norms. If a national military feels that it is fighting as part of a larger coalition or for a greater purpose, that national unit should be more cohesive. In other words, if all members of an organization understand their place in the larger situation, instead of as isolated national units fighting in a foreign land, the individual members might fight harder. The standardization of norms might be achieved by multinational training and an educational program all the way down to the individual soldier. This low-level educational program would assist the soldier in identifying with NATO as well as with his individual nation.

Cost is a major factor for any financially constrained organization. The proposed solutions to the coordination problems caused by diverse warfighting doctrines are generally low in cost. If a coalition had unlimited assets, it could buy common equipment, develop multi-layered communications nets, and have extensive resources available for training. However, NATO does not have unlimited resources. For example, one of the solutions recommended to solve the coordination problem is to create a coalition perspective through viewing the defense of the Central Region as a whole and not as separate corps battles. This solution might be realized by a change in the command philosophy of key military leaders. The dollar cost of this change in attitudes by key military leaders/mentors is not great. This solution is combined with having NATO units actually practice performing acts such as crossing national corps boundaries. The more long-term solutions, such as a common logistical structure and doctrine, have the potential to be more expensive. Goals such as a common logistical base may eventually be obtained through firm alliance leadership and the education of NATO members that it is in their best interest to seek a coalition solution.

NATO's primary goal is deterrence. If deterrence fails, NATO must fight the Warsaw Pact and attempt to restore the territory of its members. War is a violent and confusing situation. If the Warsaw Pact does invade western Europe, it will be critical for NATO to develop the rules of its defense before the arrival of Warsaw Pact tanks and the chaos of war. A coalition which wishes to create the impression of deterrence must face

the reality of its diverse warfighting doctrines and seek solutions to the issues raised by this diversity.

The purpose of this thesis has been to analyze the warfighting doctrines of the national armies in NATO's Central Region. The warfighting doctrines of each national army are not fully compatible. Additionally, creating a common coalition doctrine is not the most practical solution. However, if the Western Alliance enhances the six coordination mechanisms between NATO's multi-national units, the end result will be an effective deterrent in peacetime and a more potent military organization in wartime.

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